



GEORGE S. MYERS
NATURAL HISTORY MUSEUM
STANFORD UNIVERSITY
CALIFORNIA

Southwestern Trip, 1929.

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Notes

Southwestern Trip

1929

Note
↓

See p. 126 for results
of the trip.

April 9, 1929.

Start from house 10.00 A.M.

" " University 10.40. (mileage 17.575)

San Ardo, Calif.

Just across the Salinas River from San Ardo, 5 P.M. found 5 Aneides lugubris under and in rotten logs. The spotting varied greatly. ^(there were live ones present.) Also one Batrachoseps attenuatus. On fence at same locality shot 2 Sceloporus occidentalis. They were numerous but we decided not to take more.

Santa Margarita Creek - south of Paso Robles.

Stopped for 20 min. to look for fish or salamanders or toads. Saw a few little fish which resembled Jambusia but caught none. Hyla regilla was singing here.

- | | | | | | |
|-----|-------------------------|---|------------------|------|-------------|
| #1. | <u>Sceloporus</u> | - | San Ardo, Calif. | ♂(?) | on fence. |
| 2. | " | " | " | " | " |
| 3. | <u>Aneides lugubris</u> | " | " | " | under logs. |
| 4. | " | " | " | " | " |
| 5. | " | " | " | " | " |
| 6. | " | " | " | " | " |

7. *Aneides lugubris* San Ardo. Calif. yg. under logs.
 8. *Batrachoseps* " " " " "

On stopping for night at San Luis Obispo we heard *Hyla regilla* in song.

April 10, 1929.

Started out late from camp at San Luis Obispo. Our outfit has not gotten settled and takes too much time. Went back to the creek which flows towards San Luis along the road out of the hills. At the dam we saw 2 *Pleurolys marmorata* in deep water but they could not be secured. The one seen by Krauthor was small. The one I observed was adult. It came to the surface for air, stayed a minute, then swam to the bottom and buried itself in the mud. It was not frightened and I had time to carefully observe its actions in the six or eight ft. deep water. Many *Triturus torosus*, including one copulating pair, were observed walking about on

the bottom of the deep water. The bottom was very slimy. There were no water plants and the water itself was very clear.

We wished to substantiate Cope's old record of *Rana boylei* in San Luis Obispo County (Santa Margarita) and though this stream was ideal for the species, none were seen. Perhaps the species does not cross this range of mountains and is only found to the north of them. Krauthor observed one *Hyla regilla* along the creek.

This locality is notable for the fine growth of *Equisetum* along the creek, especially just below the dam.

After about 45 minutes search we went back to San Luis and on.

We stopped and went up a road into a canyon in the hills near Los Alamos, about ~~2~~² P.M. We went up 2 miles and then hiked up to where the oaks began. On our way in we stopped to turn over a large log by the road. Several *Sceloporus* were running about the log and we

secured one. (#9) On turning over the log we found a large Pituophis (abt. 5 ft.) coiled up, and several Sceloporus that had scampered under when we arrived. The snake was a fine one, newly shed, and was very cold and stiff. Although the sun has been shining all day, it has been rather chilly all along the way. We picked up the snake and he moved very slowly. We took him alive.

Proceeding up near the oaks and brush we took different paths, Kranzthor going up the road and I following up the draw. Ticks were very abundant. After proceeding up half a mile beyond the car I noticed a commotion at my feet and looked down in time to see a fine large Diadophis gliding away into some brush. I caught him & put him in a bag. He is different in color from Eastern Diadophis, his belly being orange-vermillion and his back olive-drab rather than slate gray. He made a very offensive odor. A few rustlings in bushes tempted me to shoot into them but nothing materialized.

6
Proceeding back to the car I took two pictures, Photo #1 being the wash up which I took the Diadophis, Photo #2 being up the one thru which the road followed by Kranzthor ran. Aperture F. — — 1/10 Sec. It was now 4 PM. & we proceeded on.

Going through Gaviota Pass, between Buellton and Las Cruces, we stopped at a likely spot. Kranzthor, going down stream, got nothing but some peculiar elongate stalked eggs in a log, apparently invertebrate. Going up a little valley with pretty green grass, I turned over a number of rotten logs and bark, this netting two Batrachoseps and three Aneides ^(There were live oaks present.) lugubris. The largest Aneides was found first. I had no can with me, so held him in my hand. When the others were secured they ~~two~~ too were placed in my hand. # The big one, after a while, apparently annoyed at not being able to get between my fingers, seized one of my fingers and bit it very deliberately. The ~~big~~ bite was as strong as that of a good sized Sceloporus. Cope says that

Gyrinophilus porphyriticus is the only salamander known to bite, but ~~he~~ he says of Aneides that, because of its huge jaw muscles and powerful jaws, it is probably more capable of biting than any other salamander. I believe there is one record since that time of an Aneides trying to bite, but I think there is no other record of a salamander attacking a person. This record of Aneides, with that of yesterday, serves to link up the Monterey and Santa Barbara records, & shows that there seems to be no hiatus in the range of this animal down the coast.

There is however, a hiatus in the range of Eusaulia eschscholtzii (Monterey - Los Angeles) which we had hoped to fill - but have not.

We heard many Hyla eximia in Gaviota Pass & I saw one small one in the grass.

- # 9 Sceloporus near Los Alamos On log.
 10. Ptychocheilus " " Under log.
 11. Diadophis ~~Gaviota Pass~~ In dry wash.
 12. Aneides Gaviota Pass ♂ Under log
 (this one bit me!)

13. Aneides Gaviota Pass. Under log.
 14. " " " " " "
 15. Batrachoseps " " " "
 16. " " " " " "

April 11, 1929. Thursday.

Again we get off to a late start, this time on the outskirts of Los Angeles. From 12.30 to 2 we fished and hunted in and along the Los Angeles River below the Los Velis Boulevard Bridge. Under the bridge in slowly flowing water ~~were~~ with many weeds were many Hyla (?) tadpoles and sticklebacks. Going downstream about 1/4 mile we came to a little tributary flowing in from the south. It was clear and swift, and rather deep, carrying about as much water as the main stream. In this tributary we saw small minnows, and sticklebacks were abundant in the grass. We caught many of the latter, several ripe (?) females and one male with red undersurface of the head. After great

effort with the dip net we got some of the minnows and finally 3 of the largest size present. In a deep pool on the near side of a wire fence which crossed the stream I could see several fishes which held out their pectorals like suckers.

They were wary, however & soon disappeared and I began to think my eyes had deceived me, but Krauthor got one of these suckers on the other side of the fence. It may be Heterolepidomyzon Santa-anae Snyder. It is small, only 3 inches in length, but of the largest size seen here. We got many tadpoles in this stream, mostly Rana I think. One very large one is doubtless Rana aurora draytonii, or does Boylei muscosa breed here? Draytonii is supposed to be a pond frog!! Very tiny black tadpoles may be toads. We got two adult B. holophilus here, and by scooping blindly under the wire fence I got a nice little Clemmys marmorata. Numerous shrimps were taken in the water plants, and one crayfish with small front claws. One Hyla pygma seen.

10
We next proceeded to Sierra Madre, the type locality of Batrachoseps major Camp. We went up "Sierra Madre Canyon" & found it to be a little niche filled with cabins & not a stone or log to turn over. Returning we stopped & turned many logs in a pasture with no result. Across the road in an old cement pool, now dry, we found young Bufo halophilus and took two. A Sceloporus was shot here and one Gerrhonotus was seen under a piece of tin but he escaped. The town & country is well built up and B. major may soon be extinct. It doubtless is now over most of its restricted range.

Proceeding to San Gabriel Canyon, we were allowed to enter past the guard. Going about 6 miles up we saw nothing but 2 Rattles (C. oreganus) and one Lampropeltis zonata in a cage near a house. They probably had been taken in the canyon. We tried panning without success, for the water was too swift. A few minnows seen, much like those in the Los Angeles River. It now being late,

we left and made Lake Elsinore where we stopped.

17 Bufo halophilus Los Angeles River

18 " " " " "

19 Blennius marmoratus Los Angeles River

20 Fish and tadpoles. " " "

a. Hyla tadpoles.

b. large Rana tadpole.

c. Small black tadpoles

d. Tiny " "

e. Sticklebacks

f. Cyprinoid (Tijoma orcutti ??)

g. Catostomid (N. santa-anae ?)

h. Shrimps

i. Crayfish

21. Sceloporus Sierra Madre, Calif. On log.

22. Bufo halophilus " " " Under board

23. " " " " " " "

12
April 12. 1929. Friday

Four miles south of Fallbrook, San Diego Co., we stopped at the creek along the road.

It was bright & sunny and rather warm.

Going down into the stream bed soon began to see lizards. Two shot were the small

Sceloporus (biserialis). Krantz shot one s. orcutti and a little Cnemidophorus.

Going up into the grass on the other side of the creek, I caught a fine Bayle's King Snake. Later I chased a Thamnophis along the creek bottom & lost him in brush.

In the creek there were many little mounds of one species, some of which I got. Krantz got two Hyla arenicolor, one under a piece of paper in the stream bed, the other on a boulder. The first was eaten by the King Snake (?) for he was not to be seen when I took out the snake!

Photo #3 taken here of this locality. It shows the exact spot where the Lampropeltis was taken. Stop F? 1/50.

Two miles on the north side of the San Luis

This is
Bonsall.

Rey bridge we took a fine little Pituophis dead on the road.

Many logs were overturned at the first locality, but no salamanders.

This afternoon & again this evening we visited Klauber & he gave us one H. arenicolor from Dulzura, two Phrynosoma from Dulzura, and many Batrachoseps leucopus from Dulzura.

- #23a Cyprinoid 4 mi. S. of Fallbrook - In stream
- 24 Hyla arenicolor " " " " On boulder.
- 25 Leuropropeltis " " " " In grass.
- 26 Sceloporus o. bisar. " " " " On rock
- 27 " " " " " " " "
- 28 " " " " " " " "
- 29 S. orcutti " " " " " "
- 30 Cnemidophorus " " " " " "
- 31 Pituophis 2 mi. N. of San Luis Rey Bridge Dead in road.
- 32 Batrachoseps leucopus Dulzura. Pres. by Klauber
- 33 Phrynosoma " " " " " "
- 34 " " " " " " " "
- 35 Hyla arenicolor " " " " " "

April 13, 1929. Saturday

The afternoon and evening of the 12th we spent with L. M. Klauber, Genl. Supt. of the San Diego Gas & Electric Co., & Curator of Reptiles for the San Diego Zoological Society. ^{Later} In the afternoon we stopped at his office & he asked us to come to his home that night. There he showed us the collection of reptiles of the San Diego Zoological Society as well as his own magnificent collection of the reptiles and amphibians of San Diego County. Upstairs he showed us his magnificent herpetological library, containing almost unbelievable rarities. We delivered to him certain rattlesnakes in the Stanford Collection as a loan. He asked us to accompany him on an expedition to the desert in the N.E. corner of San Diego County the next two days.

The morning of the 13th we started from San Diego by way of El Cajon and Ramona. We proceeded to Julian, 4000 ft. up in the mountains, where there are fine pine wood. A little beyond Julian we hunted for a considerable time under innumerable logs for the salamander Ensatina klauberi, which Klauber had told us

was to be found here. The weather was very cold and it was very cloudy. The cold may have driven the salamanders far into the ground. Not even a Batrachoseps was seen. We met Klauber here and with him proceeded down the Banner grade to the desert. At the Banner bridge ^{in Sentenac Canyon} we stopped to look for Rana aurora draytoni and Hyla as well as lizards. It was too cold for lizards, even tho here the sun was shining. Klauber said there were fish in the fine big creek at this point, but none were seen. We spent our time at the stream looking for Amphibians. Two were taken, one Hyla regilla and one H. arenicolor, both small. Proceeding out into the desert through Sentenac Canyon + the narrows we struck north through the Borego (or Borega) Valley to the P.O. of Borego (Two small shacks) and on beyond and up another branch road to the mouth of Palun Canyon. Here we met the rest of Klauber's party, in 2 other cars + made camp.

16

That night we went out on the desert to hunt Sonoras + night lizards (Coleonyx) + perhaps Sidemundus. It was too cold + windy, however + although I saw one lizard under a bush, which I couldn't get, no one got anything. There being 8 of us altogether, this is indicative of the absence of animals.

36. <u>Hyla regilla</u>	Banner Bridge (Sentenac Canyon)
37 <u>Hyla arenicolor</u>	" " (" ")

April 14, 1929. Sunday.

We were away early from camp to go up Palun Canyon as far as the palms. All of us went armed with pistols or shotguns, for lizards. Klauber lent me one of a pair of mated 9 mm. Winchester shotguns, single shot bolt action. Krantzhor had the marble Game-Getter. The canyon is very rocky, with a clear cold stream, by which is our camp, well out of the canyon mouth. (Our campsite is, by the way, posted as "Rancho Borego")

As we proceeded upward, it got rockier +

rockier. Along boulders at the water's edge, we soon began to find specimens of Hyla arenicolor. They were solitary, & were perched on the sides of the boulders, an inch or two from the swift water, into which they would leap when disturbed. They were much the color of the granite & hard to see. Most were fairly large & some very large. One was a very large female, with which one of the males attempted to mate in the collecting can. ^{Two} Eggs, attached solitarily to a dead ^{piece of} reed in a little quiet mud bottomed side-pool in which there was no current, were seen. Many tadpoles of ~~the~~ approximately the size shown, were in the same pool. Not having expected to find such things I had nothing to take eggs or tadpoles in.

Along the sides & bottom of the canyon Uta stansburiana was ~~so~~ rather common running about the bases of the big rocks. As numbers were shot. The 9 mm. gun was too strong & I had to shoot beside the mark in order not to ruin the specimens. Several Uta microscutata were shot. I shot one and

18
Kranzthor obtained 2 alive. Mine was badly mangled & was not saved. Kranzthor's 2 live ones were given to Klauber, after the largest was photographed, to be sent to A. T. Wright at Cornell to be photographed. In exchange ^{Klauber} gave us 3 dead ones he had taken during the morning. This is a new northern record, this Mexican species being known only from ~~the~~ just across the American border.

Klauber, knowing desert collecting better, got more than we did. He gave us a Sauronotus, a Crotaphytus, (Here, while writing these notes by the carbide lamp at night I was interrupted by a little mouse, ^{Dipodomys} & when tossing a stone at him, I noticed a toad hopping about very near my side. He is the rare Bufo punctatus, not common in California & then only in desert oases like this one. It is more plentiful in New Mexico & Texas & doubtless we shall see him again.) & ~~baileyi~~ baileyi I think, a Uta mearnsi, some U. stansburiana, a Xantusia hesperis, etc. Kranzthor also got a big Cnemidophorus.

The palms are very inspiring - they are fuller and somehow seem a relic of the past. I got several fine photos. Our campsite is some distance

out of the canyon mouth, in the desert proper, but beside the stream. There were a few small trees at this point, practically the only ones in sight.

#38	<i>Uta stansburiana</i>	Palm Canyon, nr. Borego
39	"	"
40	Vacant	"
41	<i>Uta stansburiana</i>	Palm Canyon, nr. Borego
42	Vacant	"
43	<i>Uta stansburiana</i>	Palm Canyon, nr. Borego
44	"	"
45	"	"
46	"	"
47	"	"
48	"	"
49	"	"
50	<i>Uta microscutata</i>	"
51	"	"
52	"	"
53	<i>Cnemidophorus</i> sp.	"
54	<i>Xantusia henshawi</i>	" (Pres. by Klammer)
55	<i>Crotaphytus collaris</i>	" (")
56	<i>Uta mearnsi</i>	" (")
57	<i>Pseudomachus obesus</i>	" (")
58	<i>Hyla arenicolor</i>	"
59	"	"

#60	<i>Hyla arenicolor</i>	Palm Canyon, nr. Borego
61	"	"
62	"	"
63	"	"
64	"	"

65 *Bufo punctatus* Mouth of Palm Canyon.
Photos # 4, 5, 6, 7, of Palms in Canyon, 8 of *Uta microscutata*, and 9 of Rancho Borego, our camping place.

April 15, 1929. Monday.

This morning we arose and rearranged our load, leaving some of the things we could not use which took up too much room. We started from the mouth of Palm Canyon about noon, taking the road to The Narrows, and east towards Kane Springs in Imperial Co., where we strike the main Imperial Valley highway. The road was very rough and we had to go very slowly at some places. At ^(not Harper's) ~~Harper's~~ Well, about ten miles from the San Diego Co. line, in Imperial ~~Co.~~ Co., there was a little water in the creek bed. A little above the bridge this widened and deepened into a little swampy pool a few

These toads are B. woodhousei!! This we found on Tuesday AM.

feet deep with tules growing about the edges. We saw four toads sitting about the edge, two of which we took. They jumped into the water as we approached them, but were not hard to catch. They are a fatter, more blunt nosed toad than last night's Bufo punctatus. They are B. cognatus^{woodhousei}, but greatly resemble B. cognatus californicus inhabiting the coastal slope from Ventura to San Diego. They do not have the large green spots of true cognatus from Arizona. They are medium sized, as in B. c. californicus. This colony appears to be isolated out in the desert, altho perhaps in rainy weather their wash flows into the Salton Sea area.

Soon we hit the main highway by Salton Sea and proceeded south to El Centro. Having had no time off since we started, we went to a movie. After this we started to look for toads I had heard calling earlier in the evening. The ^{singing} toads were scattered all over the countryside, in small pools near houses but ~~where~~ it was difficult to find a pond not so near a

22
house as to disturb the occupants (+ dog) at 8 o'clock an hour. At last after proceeding over several alfalfa fields + sundry fences we found a secluded pool where some were calling. But it was so full of vegetation (tules) we could see nothing but a big Rana pipiens. Krantz then went up a ditch + got two fine ^{very} big adult B. cognatus^{woodhousei} (♀ + ♂), however, + our search was ended. ~~We~~ had previously taken two pipiens at another pond. These were calling in typical pipiens grunts + chuckles.

The call of cognatus^{woodhousei} is a harsh trill, remarkably like that of the eastern fowleri. It is ~~the~~ much less loud, and ~~thus~~ ^{thus} we were at first deceived in the distance of the calls from us. They are very soft indeed. We saw none calling but the maker seemed clear.

These toads resemble the Harpiger Well ones in the spotting. They may be a subspecies different from the Arizona ones. The adults we have are very large.

Since these toads were taken at 1:30 to ^{2:00} ~~2:30~~ AM. ~~on~~ tonight they are dated the 16th.

# 66	<i>Bufo woodhousii</i>	Harper Well, Imperial Co., Calif.			
67	"	"	"	"	"
68	<i>Rana pipiens</i>	El Centro,	"	"	"
69	"	"	"	"	"
70	<i>Bufo woodhousii</i>	"	"	"	"
71	"	"	"	"	"

Butter
11 Sand Dunes - *Uta stansburiana*

April 16, 1929. Tuesday.

For toads taken in early morning hours of the 16th, see under the 15th.

We left El Centro and went south to Mexicali, Mexico, about 80 miles south of El Centro. Along the banks of New River, which flows northward towards Salton Sea, we obtained 5 toads, *B. woodhousii*. They were sitting along the bank within 3 feet or so of the water in the shade of mesquite. They jumped into the water & were seen no more when

24
disturbed. The water was swift and very muddy and dirty. It carries the sewage of Mexicali. The temperature in the shade was 102 F.

This area is a flat one, and part of the Imperial Valley. Probably the toads all came into this area from the Colorado by way of the streams which formed Salton Sea.

Proceeding eastward over the desert towards Yuma, we saw little alive. We stopped at the Sand Dunes which stretch for many miles north and south. Here *Uma* *notata* was abundant. There ~~is~~ only very scant vegetation on these dunes, ~~mostly being~~ the greatest part of them being drifting sand. The *Umas* usually are found in the vicinity of a small bush and dash away fifty to seventy five feet when disturbed. The smaller ones show ~~little tendency~~ much less tendency to bury in the sand than the old ones. The ones which do go in simply dash ahead and like a flash shoot into the sand. Krauthor said the large one he caught alive (Photo) made a ripple some distance after it had shot

under. One of these lizards I observed "pumped" its body up and down as does Uta + Sceloporus. They have an extensible dewlap.

We shot 6 Umas in these Sand Dunes along the new highway replacing the old Planked Road. Krauthor got 3 more alive by noosing + digging. A few were observed on the edges of the dark roadbed as the car went along, and they were not especially afraid of the car.

Arriving at Yuma we put up in an auto camp and went out at night to get toads. We had hoped to find B. alvarius, B. cognatus, and possibly B. punctatus, but all we heard was the fowleri-like call of woodhousii. We tried a long time to obtain some of these but all apparently were towards the middle of the ponds + we could not approach them. They were abundant ^{at} ~~near~~ any considerable body of water ^{found} about Yuma, on both sides of the river.

In one pond near the R.R. on the Calif. side ^{a single} ~~one~~ call was repeatedly heard that appeared to be a "turkey-root" call (see Overton, + Howell) of woodhousii. Another trilled call heard

behind the R.R. Station at Yuma, Ariz., might have been another Bufo.

- | | | |
|-------------|------------------------|--------------------------------|
| 72. | <u>Bufo woodhousii</u> | Mexicali, Mex. |
| 73. | " | " |
| 74. | " | " |
| 75. | " | " |
| 76. | " | " |
| 77. | <u>Uma notata</u> | Sand Hills, Imperial Co., Cal. |
| 78. | " | " |
| 79. | " | " |
| 80. | " | " |
| 81. | " | " |
| 82. | " | " |
| 83. | " (Live) | " |
| 84. | " (Live) | " |
| (Photo) 85. | " (Live) | " ^{Carey's spec.} |

April 17, 1929. Wednesday.

Photos #11 Sand Hills, habitat of Uma.

April 17, 1929. Wednesday.

We started from Yuma and went across to the California side and northward thru the Indian Reservation to Picacho. The country about Picacho, on the Colorado, is very picturesque, with mesas and jagged peaks all about. It is all desert country. ~~Here~~ At the Picacho Mine, near Picacho, we came on a gopher snake of perhaps $5\frac{1}{2}$ feet proceeding leisurely across the road. He was very beautiful, with a finely speckled pattern on the back of the head. Later in the day, when attempting to recatch a rattler, ~~he~~ ~~was~~ left the bag open & he escaped. A little beyond Picacho Mine the road runs through a dry wash and we stopped to look for lizards. We shot here 2 Callisaurus and a Cnemidophorus. Here and ~~a little~~ beyond Picacho we obtained some Utas, but some were too badly shot up to save.

Callisaurus is very like Uma in its behavior, and the two are doubtless very closely related. The resemblance extends even to the gridiron pattern on the undersurface of the tail and the spots on each side of the venter.

Along the river beyond Picacho we had hoped to find some Bufo, particularly alvarius, but a man at a ranch told us that he had never seen "big green toads" there. Amongst piled driftwood on the banks a few feet from the water, Krongthor found a good sized rattler (atrox?) coiled up. I brought a noose & after he had been noosed we brought him back to the car. While Krongthor was holding him he snapped his head away & he had to be recaptured. It was in this excitement that the fine gopher snake was allowed to escape.

The rattler was in a perfect coil when found and did not move when we approached him closely. It was only when the noose was being poked over his head and the noose tightened that he began to rattle & to fight.

Small Utas with a pattern peculiar to that of Sceloporus undulatus were common on the driftwood but some were too badly shot up to take.

We obtained a good picture of the Colorado above Picacho.

I caught one Uta with my hand under a bush near Picacho but he later escaped. I found him under an old cigar box near the road. These

small *Uta*s seem easy to approach.

At night we made a short excursion out on road ~~but it~~ near Yuma, but nothing was seen. Weather too cool.

- # 86 *Callisaurus* Mr. Picacho, Imperial Co., Calif.
87 " " " " "
88 *Onemidophorus* " " " " "
89 *Uta* " " " " "
90 " " " " "
91 " " " " "
92 *Crotalus* ^{sagittatus} *atrox*(?) " " " " "

Photos.

- # 12^① Colorado R. Basin nr. Picacho
1^② " " " " "
2^② " " " " "
3^② " " " " "
4^② No good.
5^② Colorado River above Picacho
6^② " " " " "
7^② *Uma notata* From Sand Hills
8^② " " " " "

- # 9² *Crotalus* Mr. Picacho
10² " " "

April 18, 1929. Thursday.

In the morning we stayed at the auto camp at Yuma, did a washing and dried it, and took the photos of the *Umas* and *Crotalus* listed above.

In the afternoon we set out for Phoenix, but we found we were supposed to turn our watches on an hour at Yuma, Ariz. & had not done so & thus started at 2 P.M. rather than at 1.

From the flat desert at Yuma, one quickly comes to the Gila Mountains, where the first of the giant Cactus are seen. The mountains are very rocky and would seem to offer good lizard hunting. It was very windy, however, even tho the thermometer registered 98° F. in the shade on the desert near Yuma.

We stopped and went up one ^{small} rocky canyon which looked promising for *Chuckwallas* but though we went high up and looked carefully, we got nothing. In the canyon bottom, however,

We found the skulls and scattered bones of 2 mountain sheep, not very old since there was remains of dried meat near the hoof. We did not bring the skulls since we have little or no room to spare.

From this time on we did not stop, except for imaginary snakes or desert tortoises seen in the road, & which always turned out to be pieces of cloth or tire.

We had supper in Gila Bend about 6:30
 & then proceeded on about ^{3 or 4} miles. Here
 we stopped for the night in the desert. It
 was windy and rather cool and looked
 very unpromising. ^(but we went out with lights.) Bradshaw came back
 with one sidewinder, Crotalus cerastes, however,
 and though I looked and looked, all I saw
 was one small lizard (Uta?) which scampered
 away when I turned over a rotten piece of
 wood.

Krausothor shot a Dipodomys near the car which he tried to feed ^{to} the sidewinder. These Dipodomys, superficially at least, look exactly like those seen at Rancho Borego. The sidewinder ate the ^{dead} Dipodomys, a half hour later.

We stopped and looked along irrigating
ditches near Jila Bend, tho without going over to
the river. No toads were seen. Alvarius, cognatus,
and woodhousei should be here.

Giant Cacti are abundant ~~at~~ all about and there is much mesquite, as well as a few larger trees — these along the washes.

#92. *Eriophorum cuneatum* Mr. Gila Bend, Ariz.

April 19th, 1929. Friday.

We hunted and wrote notes so late the night before that we got a rather late start. Must have been 10.30. On starting we found we had a flat tire and must needs put on a spare. Back to Jila Bend (the J. B. Café) for breakfast & then, on to Phoenix!

On coming to the bridge over the Gila River just below Gillespie Dam we stopped to see if there might be some good places to ~~take~~ take seine. I much wanted to obtain some of the

peculiar Gila Cyprinidae but ~~even tho the~~ I had not thought it worth while to approach the river lower down, fearing it was more or less like the Colorado at Yuma, with little place for fishing.

We found considerable water in the river, in several courses, the bed being mostly rocky, altho it had evidently not long before retreated from the bottom lands among its several courses. These were still somewhat muddy, and bore a thick growth of 2 kinds of bushed 10 to 15 ft. high. These in many places formed an almost impenetrable thicket. In the open spaces there were many tracks of smaller birds, large herons, and raccoons (I think!!).

A little stream^{let} was found, with some back-water beside it, 1/4 to 1/2 mile below the bridge. It had a bottom of small stones and was filled with small fishes. We pined it and got innumerable specimens of at least 3 species. One, a cyprinodont, is either a Gambusia or else Poeciliopsis occidentalis. It much more resembles a Gambusia than a Poeciliopsis, but it is distinctly not G. Patzschii! They apparently were not swimming at the

surface in schools and were not very numerous. They were not recognized, in fact, until the net was pulled. The second species was a fine minnow in breeding dress, the males with red flushed fins and head, the females full of spawn. This species occurred in the quieter water but examples, perhaps ♀♀'s of this, were taken by the seine in riffles. If they were the same species there were no males with them. The third species, also a minnow, was far the most abundant. It was smaller than the last, with a ^{more} distinct ~~black~~ dark line down the sides. It was taken in the quieter water. There appear to be two ~~the~~ dark lines down the dorsum, with 2 or 3 golden areas ~~to~~ in segments of each line. This gives a characteristic look to the back of the fish. The males of this species (?) appear to have much better developed pearl organs on the head than the last. The females were ripe. This species may be an Agosia; the mouth is inferior.

The second, larger form, has a large widely forking tail. The red areas in the ♂♂'s are: upper lips & cheeks, scapular region, region of pectoral axil, pectoral fin, and bases of pelvic, anal, caudal, and dorsal fins. In most there

The plant resembles the first leaves one growing in the museum on the campus on which Cereas abounds in autumn. These Gila plants have a curious bloom.

are small black spots on the tiny scales, thus giving a "black-peppered" appearance.

I have just looked at the anal fins of the male cyprinodonts with our weak glass, and ~~they are~~ ^{they are} distinctly of the slender hooked type of Poeciliopsis. It must be P. occidentalis, the only member of a distinctly ~~so~~ Central American viviparous genus to reach the borders of the United States.

There were many deserted ^(temporary shacks and) buildings at the Phoenix end (which, peculiarly, is the western end) of the bridge, especially on the left of the road (facing towards Phoenix). Krenzthor hunted about them, and in and about them he took 3 fine ^{This was a Colonyx} ~~Xantusia~~, possibly X. vigilis Baird. I do not know that it has been reported so far to the eastward. One was in a shack under a box. One of the others was under a cloth and the 3rd under a plank, outdoors in the sun.

H. saw a racer, brown in color, on the river bottoms, and we took several Cnemidophorus (which were abundant among the thickets) and a few Utas on the ~~river~~ bottoms or nearby. The Cnemidophorus would come out from

36
under a bush and slowly run across your path as you walked along, perhaps 15 to 25 feet away. As they stopped in the shade of another bush they apparently vanished into thin air, for there was no trace to be seen, on closer inspection, exactly where you knew they had stopped.

Across the road up on a hill there were numerous piles of lumber and much other building-rubbish. This I attacked with the pinch-bar and in one pile of lumber I uncovered a fine Chuckwalla (Sauromalus). He played hide-and-seek with me for a time as I pulled off the boards, but soon I was able to get hold of his leg (with the bag between us!) and get him out. He savagely attacked the bag, the whilst I got a good hold on his neck. Another smaller lizard seen in the pile failed to materialize as the last board was lifted. He escaped during the tussle with the Chuck, I suppose. Under another board I found a 6 inch blue green scorpion but neither he nor I was eager to make closer acquaintance.

I was really hunting for ^{Colonyx} ~~Xantusia~~ under the rubbish on the hill, but neither this foray,

nor Krantzhor's over to the low escarpment of the desert behind the buildings, netted any. All seemed to be in or about the buildings.

Between Gillespie Dam and Hassayampa we ~~found~~ saw a dead Rhinocheilus leontai, found a fine large live Kingsnake (Lampropeltis) very much like boylii, and saw a dead Gila Monster (Heloderma suspectum), in the road, each about a mile apart and in the order named. The country was all desert and there appeared to be no mts. near.

On the outskirts of Phoenix, near ~~Canyon~~ Cushion, we saw a small dead Pituophis in the road.

- # 94 Fishes (3 spp.) taken in Gila River below Gillespie Dam)
 95 Onemidophorus Below Gillespie Dam.
 96 " " "
 97 " " "
 98 " " "
 99 " " "
 100 Uta " " "
 101 " " "
 102 " " "
 103 Sauromalus " " "

104. Coleonyx ~~Santasia~~ Below Gillespie Dam, Gila R., Ariz.
 105. " " " "
 106. " " " "
 107. Lampropeltis Betw. " " + Hassayampa.

Toad very active.

April 20, 1929. Saturday.

We stopped at Shannon's Auto Camp over night and in the morning of the 20th set out to do some errands in Phoenix. The town is a large one, some 75,000 they say and is quite the best we have seen since leaving San Diego. The stores do not have coverings built out over the sidewalks, forming a cloister for the sidewalk, as they do in the Imperial Valley and at Yuma. We found a friend of Krantzhor's, Alexander Ackel, son of the proprietor of the Jefferson Hotel, and he took us for a little tour of the city. Many hotels and auto camps - denoting much travel through this section.

We bought brass brushes, .44 and .22, for our collecting gun, with a rod^m which they would fit. Also more fish-hooks. Something

STANFORD UNIVERSITY COLLECTIONS
 Locality Butte, Gillespie Dam and Hassayampa
 Date Apr. 19-29
 Collector K. and M.

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96 " " "
97 " " "
98 " " "
99 " " "
100 Uta " " "
101 " " "
102 " " "
103 Sauromalus " " "

107 Maricopa Co., Ariz.

104. Coleonyx ~~Santana~~ Below Gillespie Dam, Gila R., Ariz.
105. " " " "
106. " " " "
107. Lampropeltis Betw. " " & Hassayampa.

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happened to the valve lubricator of the car and we spent much time trying to find someone who carried the same make, but could not. We got the tire punctured at camp near Jila Band fixed. Went to State House in early afternoon to see Mr. Bayless, State Game & Fish Warden, who had given us collecting permits, in order to report our movements, & to see if we could get any information on reports of blind cave fishes said by someone to have been found beneath a dry riverbed ^{somewhere} in the Southwest. He was not in, however, it being Saturday afternoon! We have ceased to remember what day it is!

At night we ventured forth along the river for toads. The characteristic fowleri call of B. woodhousii was heard all along the river. We took 6 singing males as they sat up very straight in calling position among weeds in 2 or 3 inches of water. A single large ^{dusky} female was caught hopping about in brush in a sandy area nearby. No females or pairs seen in the small area examined. Going further out we stopped at an

40
irrigation ditch where I heard a Rana pipiens call. There were splashes ahead of me as I advanced and I heard more pipiens calls but the banks of the ditch were so steep I could not get near the noisy creatures. On the way back to the car I spied a small B. woodhousii at the water's edge & by dint of much manoeuvring I managed to get down & seize him. No toad calls heard here. We saw or heard no other species.

108.	<u>Bufo woodhousii</u>	Phoenix, Ariz.
109	"	"
110	"	"
111	"	"
112	"	"
113	"	"
114	"	"
114a	"	"

April 21, 1929. Sunday.

This morning we started out for Tucson by way of Florence. Ten miles ^{north} ~~south~~ of Florence we stopped to hunt and take pictures, opposite Superstition Mt. It was good desert country with plenty of fine giant cactus, of which I wanted photos. The following were taken.

- | | | | |
|-----------------|------------------------------------------|-----|--------------------------|
| 11 ² | Giant Cactus | | |
| 12 ² | Small Cactus in bloom. | | |
| 1 ³ | Desert scene | | |
| 2 ³ | " " | | |
| 3 ³ | Superstition Mountain | | |
| 4 ³ | Tree cactus | | |
| 5 ³ | Crotalus cerastes, caught nr. Jita Bend. | | |
| 6 ³ | " " | " " | " " |
| 7 ³ | " " | " " | " " |
| 8 ³ | Colonyx variegatus, | " " | Gillespie Dam |
| 9 ³ | Lampropeltis g. boylii | " " | Hassayampa |
| 10 ³ | Saurornatus | " " | Gillespie Dam |
| 11 ³ | " " | " " | " " |
| 12 ³ | Lampropeltis g. boylii, | " " | Hassayampa |
| 1 ⁴ | Saurornatus | " " | Gillespie Dam |
| 2 ⁴ | " " | " " | " " |

3⁴ Myself by giant Cactus

4⁴ Desert scene

5⁴ A desert flower blooms by the roadside (nr. Tucson)

At this place we shot some Cnemidophorus and Callisaurus. The former are rather slow but very deceiving. They, in common with all of these desert Teiids & Iguanids, ~~to~~ are found under bushes, & break for another when disturbed, the Cnemidophorus with many stops, however, & if one is quick & takes good aim they are easily bagged. Callisaurus, however, shoots away like a tiny gray shadow, in a semicircular path usually ending under a bush 50 to 75 feet away, perhaps more.

We stopped later at a rocky place on the left near the road, where many barrel cacti, prickly pear, & the ever present giants grow. Although we scoured about and I pried off innumerable flakes with the pinch bar ~~we~~ saw nothing but a little gray lizard (Callisaurus?) running along.

Forty miles north of Tucson we again stopped, near a wash in the open desert, where we got ~~to~~ some more Callisaurus & Cnemidophorus.

One of the Cnemidophorus here was distinctly striped, with a bluish tail. Hence, we proceeded into Tucson & stopped at an auto camp. By the time we had washed & it ~~fixed our specimen~~ was too late to see Evelyn Snyder but we went downtown to eat & see the town. Made this, then returned & fixed our specimens, & retired.

115. Callisaurus 10 miles north of Florence, Ariz.
116 " "
117 Cnemidophorus "
118 " "
119 " "
120 " 40 miles north of Tucson, Ariz.
121 " "
122 " "
123 " "
124 Callisaurus "
125 " "

April 22, 1929. Monday.

In the morning we went over to see Evelyn Snyder, who had our mail for us. How good letters from home seemed! And there were our maps, in two packages, and the formalin from Prof. Snyder, and candy from Mrs. Caig. We opened these things while we waited for Evelyn to come back from a class, which she did not till nearly noon. We made an appointment to meet her at the Agricultural Bldg. on the U. of A. campus at 2.30. In the meantime we hunted up Dr. W. P. Taylor, to see if we could get data on toads & reptiles, & on the location of Steam pump, where Osterburger & Levine had such good luck. He was away at the S.W. Div. A. A. S. meeting at Albuquerque, N.M., but we saw Dr. C. T. Vorhies, who said toads did not come out until the summer rains in July. We also saw Dr. ~~Caruthers~~, of the Biology Dept., a Stanford man, who helped us some. Then we decided to go to Sabino Canyon, altho it was late in the afternoon. Going to auto camp to leave our bundle we had a puncture, but ~~it~~ ^{the tire} was soon changed & we got back to

Mrs. Carroll's house, where Evelyn stays. Mrs. C. had fixed up a nice lunch, with a gallon (?) of punch, which, with Mrs. Gaig's candy, made quite an array.

We got to the Canyon, ^{Picnic grounds} about 6. Kramphor climbed the hill partway but saw nothing, after we had fished a little. We found Agosia plentiful in the fine stream & caught a number with a dip net, together with another cyprinoid (1 spec.) with terminal mouth. Agosia was partial to the rapid stretches. Evelyn caught 2 Hylas & I a Rana.

Then we ate supper. While doing this it got dark & I called forth with a light. ~~which~~ A rustling in a bush near the water attracted my attention, and there in the leaves below was a small Bufo punctatus, gray with red spots, a beautiful little creature. Another Rana was taken by the edge of the stream.

A spit of rock extends out here, making a deep pool. On the down-stream (shallow) side there were many Poeciliopsis occi-

dentalis swimming about, easily approached with the flashlight. On the deep side I turned my light down & saw a number of cyprinoid 4 to 8 inches long. I called the others & we tried for some with the dip net for a considerable time. No luck. We did catch one or two of the smaller ones, tho. They are of the terminal-mouthed species. We also got three musk turtles which were scouring about the bottom of the pool, two of them in one swoop of the net, but let the smallest one go. It appears to be Kinosternon sonoriense de Conte.

- | | | |
|------|-------------------------------|------------------------------------|
| 126. | Fishes, 3 spp., | Sabino Canyon, Santa Catalina Mts. |
| | | near Tucson, Ariz. |
| 127. | <u>Hyla arenicolor</u> | " |
| 128. | " " | " |
| 129. | <u>Rana (pipiens?)</u> | " |
| 130 | " " | " |
| 131 | <u>Bufo punctatus</u> | " |
| 132 | <u>Kinosternon sonoriense</u> | " |
| 133 | " " | " |

I had forgotten to tell of the old lady in the

Ethnological Museum in the Agricultural Bldg. She talked and talked, during the noon hour, about a slender tree snake, a Mexican species, taken near Tucson in a tree, and which she has kept alive on lizards for two years. ^{It belongs to Perkins.} Then she showed us many Indian things, including the sand paintings, which she described in great detail, and gave us each a program of an Indian pageant containing a picture of the old Indians who made the paintings. — And we met a student, named Caldwell, who first told us ~~how~~ where Pusch's Steam pump was. It is no longer but the name persists.

Our collecting at Sabino Canyon was at, or a few rods above, the picnic grounds.

48
April 23, 1929. Tuesday.

In the morning we fixed specimens, wrote notes, etc., and about noon started north on the highway towards Phoenix to Pusch's Steam pump. This place, said to be 18 miles north of Tucson, is less in an air line or by the new road, which cuts out many kinks of the old one. Steam pump has become noted as a collecting place for reptiles by the work of Van Denburgh, Slevin, and Ortenburger. I remember Ortenburger having mentioned it when he returned to New York after his trip here for Gila monsters. Slevin told us to be sure to go there for Gila monsters, but many people have told us the season was too early for most reptiles, and in general our experiences, at least with snakes, have borne this out. Many Gila monsters seem to have been captured this year however, both near here and also at Phoenix, if the large collection of the "Snake Man" at the latter place is any indication.

We soon arrived at an old ranch, which, on inquiry, proved to be Steam pump. The present

occupant told us that he had been there only two years, but that his predecessors told him of someone having stopped there for some time while hunting rattlers, Gila monsters, & other reptiles, just before he took the place over. If it was Slevin or Ortenburger, his memory probably was at fault, for Ortenburger was here 5 or 6 years ago, and Slevin I think longer. At any rate Slevin had been there before Ortenburger & told him about the place.

The old fellow we met was very pleasant. He had us drive the car in the gate and leave it in the yard while we hunted. Later he told us the place was a very old one - "Guess a hundred years," he said. It used to be a hotel & bar, and a stopping place for the Tucson Stage-coach. One of the first power pumps in the country was installed, (by old Pusch?), and a steam pump, and ever since the place has been known as Steam pumps, or Pusch's Steam pumps. The first ridge of the Santa Catalina Mts., rising opposite the ranch, is called Pusch's Ridge; it rises to nearly 7,000 feet. One of the old pump boilers is still in

50
existence, behind the present ranch house, but the old 2 story adobe pump-house stands apart, nearer the road. There used to be a stage-barn directly behind it.

We went directly towards Pusch Ridge, up a rocky canyon, shooting a few lizards on the way. One Uta^{found in a low tree} we apparently have not seen before was obtained, together with Callisaurus and the ever-present Cnemidophorus. After some time the mid-day sun on the almost white granite boulders affected my eyes, and I went down, not, however, without having gotten some pictures. ^{near} At the corral, across the road from the ranch, I observed a Cnemidophorus run on his hind legs. He went faster than I have seen these lizards run before and my first thought was Callisaurus, but he was more slender and pointed and did not run quite so fast. I followed him to the bush he ran under and it was a Cnemidophorus. In running he kept his front legs pressed closely to the body, with the body very low down. It appeared thus:



Although there is a very slight possibility the lizard I saw under the bush was not the runner, I do not think it probable, as I kept close watch, and no lizard ran out from the bush.

Krauzhor continued up the ^{smaller} canyon a way and came back with several lizards, a large Sceloporus, and a fine racer, Masticophis semilineatus. The Sceloporus, the first we have seen ~~since~~ since leaving California, ran under some rocks, & K. dug him out. K. shot at a Callisaurus and missed & when he went over to the large bush it had disappeared into, to look for it, he saw it apparently pinned to the ground by a stick. This stick turned out to be the racer, which held the lizard by the middle. It worked it around & had it half swallowed, even tho nervous at K's presence, by the time he put a stick on it and picked it up. ~~He~~ It dropped the lizard, which escaped, but showed no resentment & was not nervous or hard to handle. Some fine photos of it were secured.

Later, after K. had returned & my eyes had

52
rested, I went off ^(with dark glasses) over the low rolling ridges behind the ranch for a mile or so, but nothing but a Callisaurus showed itself. As I had no gun, it escaped. K. went off likewise over these ridges but returned empty-handed. No Gila Monsters in sight. We went back to town about 6 P.M.

Went over to see Evelyn Snyder & show her the snake. Mrs. Carroll was very good to us, - asked us to eat but we declined. Mr. Carroll, a railroad engineer, returned before we left. He told us that at Maricopa, ^{Arizona}, under the railroad station, there lived ~~an enormous~~ a colony of enormous greenish toads, which came out after rains, and at night under the ~~the~~ electric lights to catch bugs. At last our long-sought B. alvarius.

At night we were tired & went to a movie, "making the grade" - just fair, I thought.

Tucson is a peculiar town, tho like many in this section in some ways. On the one hand the squalid Mexican section, on the other a highly intelligent university community.

The photos we obtained at Steam Pump are as follows.

- 6⁴ Ranch house at Steam pump.
 7 Pusch Ridge from "
 8 Steam pump from the foothills of the ridge.
 9 Prickly-pear in bloom - foothills
 10 Pusch Ridge from foothills F8 x 1/160
 11 " " " " F11 x 1/160
 12 Masticophis Steam pump
 15 " " "
 2 " " "
 3 " " "
 4 Sceloporus "

Specimens:-

- 134 Masticophis semilineatus near Steam pump
 135 Sceloporus " "
 136 Uta " "
 137 Callisaurus " "
 138 Callisaurus " "
 139 Enemidophorus " "
 140 " " "
 141 " " "
 142 " " "
 143 " " "

- 144 Enemidophorus near Steam pump
 145 " " "

April 24, 1929. Wednesday.

It took all morning to fix up our specimens, write notes, ^{letters} and pack up. On stopping at a gas station to have the car greased, we found that the oil pan was leaking. Getting the car greased and the pan fixed took up all afternoon. While this was going on we fixed up the box for the live Crotalus atrox ^{#92}, the Lampropeltis ^{#107}, & the Chuckwalla ^{#103}, which we intended sending back alive. This took considerable time - due to the small size of the gimlet-awl for punching air holes, and the poor boards we had for covers. This done, it was ^{just} too late (5.00 P.M.) to take it to the Tucson express office.

We started for Nogales about 6. P.M. Arrived about 8.00. Peculiar town. Full of U.S. soldiers now. The rebels have charge at Nogales, Sonora, across the street. Only this morning

federal planes dropped two bombs on the Mexican town. ^{It} Had something to eat, then went across. Up to night before, the border has been open 24 hrs. a day but now it is closed from midnight to 6 am. K. had a drink but I had nothing. Very dead on Mexican side, but very alive on U.S. side. All business houses of the place (have saloons & gambling joints) seem to be on the American side.

Met an old friend of K's, "Duki" Karam, a Syrian, one of sons of Karam, who has big store here. He told us much of the town, the revolution, etc., & finally took us on a tour of inspection in his car, including the U.S. military post - the hill overlooking the Mexican town, etc.

Left and went several miles out on the Tombstone - Ft. Huachuca road, where we camped.

The first day without a specimen!

56
April 25, 1929. Thursday.

Up without any breakfast (which we thought we'd get along the way) towards Ft. Huachuca. We were soon on the rolling plateau which forms the base from which the several isolated ranges of the Huachuca Mts. abruptly arise. The plain is partly dry grassy but mostly semi-desert, with a few areas of trees which resemble the California live oaks in their manner of distribution - forming park-like areas. Whatever brush there is is sparse and heightens the ~~for~~ open park like character. Here and there are areas where low yuccas abound - ~~and~~ but none here in bloom. ^{Just areas are of dry grass - small.}

In several directions one sees the abruptly rising forest covered ranges of the Huachucas, ~~all~~ mostly entirely isolated. The plateau is a little over 4000 ft high. The Mts. rise to 8000 or 9000 ft. What appears to be the main range we see to our right far ahead. At a cross roads an old fellow with long white whiskers (looks like Trader Horn) tells us of a little creek with "suckers", at Elgin, some ten miles over.

(Had our 3rd puncture - blow out - soon after our start)

We go by way of Elgin, which really only takes us 4 miles longer than the highroad but there we find it is 5 miles out to the place. Wego, & it is on a ranch. The people are very kind & tell us where to fish & the cute little boy (about 2) is very interested in fishes (name something like Kiddy). The brook is small but we find two *Kriosternon* and 2 species of *Cyprinoids*. One seems to be *Agoria*. The other I don't know. They say there are catfishes here but we have seen none.

We go back to Elgin & continue on, with nothing under our belts but an orange and a box of cookies apiece, and it is mid-afternoon. (We nearly lost the basket & the turtles leaving the ranch - had to go back & hunt for them - & one turtle was injured).

Going on, within a few miles of the road which turns off to Ft. Huachuca, a bearing turns out, and we coast and limp down the grade to Fairbank and then up to Tombstone - about 20 miles. There is a fine stream at Fairbank and we may return to it and Fr. Huachuca.

In Tombstone about 4 P.M. ^{we ate at Joe's cafe,} ~~where~~ we had nothing much to do. Got a room in the hotel - the auto camp was atrocious, ~~washed up,~~ ^{ate} washed up & strolled about. Then at 7.30 we ate some chili, & went to the only movie - a funny little thing. Good show - "The Leap". To bed.

Photos

- 5 } A smaller ridge of the Huachuca rising
6 } from plateau near our collecting point.

Specimens

- | | |
|-----|-------------------------------------------|
| 146 | Fishes, 2 spp., near Elgin, Huachuca Mts. |
| 147 | Tadpoles, " " " " |
| 148 | <i>Rana pipiens</i> " " " " |
| 149 | <i>Kriosternon</i> " " " " |
| 150 | " " " " |

April 26 - 1929. Friday.

Slept late at hotel in Tombstone then went out, ate, and to garage. Car ready about noon. In meantime went to Owl Drug Store & bought book on Tombstone history - "Elldorado" by former Deputy Sheriff Breakridge. Took pictures of K., I. & Bird Cage Theater. Then to Bisbee, Douglas, ^(lunch here) Rodeo, (part of the ^(suburban) Empire Chiricahuas), and Lordsburg, & Deming. Camped on desert 20 miles from Las Cruces.

Photos 7 Street Scene, Tombstone.

8 K. in front of Bird Cage Theater, Tombstone.

9 Me, & car, " " " " " "

April 27, 1929. Saturday.

Up & away to Las Cruces & El Paso, where we went to K's brother's home & stopped. (W.A. Krauszhor, 1717 Stanton St.)

In afternoon tried to find Col. Cermains the herpetologist, but found he was abroad.

April 28 - 1929 - Sunday.

Did nothing much. To Rodeo in afternoon, to a movie at night - saw "Close Harmony". With K's bro. ~~yet~~ still.

Apr. 29 - 1929 Monday.

Started out for Mc Killigan's Canyon, near El Paso, ^(8 miles from center of town) about 10.30. It still is cool and windy, poor reptile weather. ^(82°F) K. says he has obtained many things in this canyon, & Cermains has reported the rare Davis Mnt.

Pilot Snake, Elaphe subocularis, here. Proceeding to the Canyon, which is rocky with sparse vegetation - mesquite, yuccas, cactus, we separated and hunted. I saw a Crotaphytus hiding in the shadow of a rock not far up the slope. Failing to catch him I shot him. I ascended rather high, to the red rock ridges, but ~~at~~ ^{there} was a high wind & nothing was seen. Coming down, I caught a large old Crotaphytus near the car, after breaking up the rock he was under with the punch bar.

Photo. McKelligan's Canyon. habitat of *Crotaphytus*.

K. came back with 3 *Crotaphytus*, & we had gotten 2 *Gerrhidophorus* on the way in, at the canyon's mouth. *Callisaurus* seen but got away when shot.

About a mile from the canyon mouth, on the way back to town, & near the first houses, there is a covered cement reservoir. An overflow pipe which drips water, down below the reservoir, forms a small, clear, rocky pool about a yard in diameter, the water seeping away and causing a little spot of grass below. The pool was full of tiny toad tadpoles, which I surmised were *B. punctatus*. We took several. On turning stones, no toads found.

That night we made a flying trip out to this place to look for adults. On coming up to the puddle, four adult *B. punctatus* scrambled to get out of the water. They were not mating. Another adult and one hgr. were found hopping nearby. There were 2³ ♂♂ 1² ♀♀ and 1 hgr. altogether but we took only 2 ♂, 1 ♀, & the one young.

# 151	<i>Gerrhidophorus</i>	El Paso, Tex.
152	"	"
153	<i>Crotaphytus collaris</i>	"
154	"	"
155	"	"
156	"	"
157	Tadpoles	"
158	<i>Bufo punctatus</i>	"
159	"	"
160	"	"
161	"	"

April 30, Tuesday.

Spent all day preparing to leave, repacking car, getting tank fixed, buying chloroform, films, getting tire fixed, etc. Bought more mason jars & sent 6 full to Snyder. Left 6.30 P.M. Drove over 100 miles & camped in desert.

May 1, 1929. Wednesday.

Weather very windy & somewhat cool.

Up and off to the Davis Mts. Intended to go to Marfa first to see K's. people but found we should have turned ^{south} at Van Horn so we came on towards Fort Davis. On the road 3 miles north of Toyahvale, travelling south, one comes to a rather new concrete bridge over a weedy little stream. On the south bank, on ~~the~~ ^{the right} side of the road there is a tumble-down adobe house and on the left a small stone one. (This is not the larger ~~concrete~~ bridge close to Toyahvale, which crosses an ^{artificial} wash, dry at the time we passed.)

In this little weedy stream Cyprinodonts of two species - Cyprinodon (deserti?) and Plancterus zebrinus, - swarmed, the Plancterus much less numerous than the others. In seining we obtained some beautiful ^{minnows} ~~fishes~~ - one was Notropis lutrensis (B. & G.) and the other - or others (possibly 2 spp.) I did not recognize. I caught one good sized sunfish (Eupomotis?) in the dip net. In the seine were a few specimens

of a Gambusia I have not seen before - with a more compact ~~head~~ ^{body} and blunter head than either holbrooki or patruelis. All were females, and I do not doubt that the males, if any were present, went through the meshes. I later looked a long time for these fishes and altho I saw many young, too small to be caught in the fine-mesh dip-net, no adults were observed swimming in the stream and consequently I did not get any males.

In order of abundance, the species ranged as follows:

1. Cyprinodon
2. Thunnus - sp. indet. (dark stripe - possibly 2 spp.)
3. Plancterus zebrinus
4. Notropis lutrensis
5. Gambusia } possibly in changed places?
6. Eupomotis

The male Cyprinodons and Plancterus were in breeding colors, those of the former with scale ctenii that were easily felt in handling. They were dashing about, chasing the females, but were not spawning at the time I observed them. ~~Both~~ Females of both species seemed

ripe, as did those of the 2 species of Cyprinoids.
 In color the zebrinus resemble males
 of Fundulus diaphanus diaphanus - the coastal
 race - , with ^{greenish} silvery bars on a green gray
 background, the pectorals, and especially the
 pelvis and anal fins flushed pale ^{blood} red.

The dorsal and caudal fins, as well as the
 sides of the ♂ Cyprinoids were whitish, the
 caudal with a broad terminal black margin.
 Over this ^{whitish} ~~was~~ on the sides was the dark greenish
 network of scale edging.

Krauszhor went ~~up~~ ^{down} the creek & got a
 big Matrix & a Kinosternon, different from
sonoriense. Said there were many turtles
~~up~~ down there as well as large (sun-) fish.
 We shall visit this stream again!

In the morning, 29 miles N.W. of Toyahvale,
 we collected lizards, including one Sceloporus
 too badly mangled to preserve, ^{and} a few Cnemidophorus.
 This was on a desert slope, low rolling
 hills, with scrubby vegetation.

One Cnemidophorus was obtained at the creek
 3 mi. n. of Toyahvale.

Two photos of the weedy creek at the place

most of the fishes were caught were taken.

Photos

- 11 Stream 3 mi. N. of Toyahvale, Texas.
- 12 " " " " " "

Specimens.

- 162 Cnemidophorus 29 mi. N.W. of Toyahvale, Texas.
- 163 " " " " " "
- 164 " " " " " "
- 165 Fishes (5 or 6 spp.) 3 mi. N. of Toyahvale, Texas.
- 166 Sunfish " " " "
- 167 Rana pipiens " " " "
- 168 Cnemidophorus " " " "
- 169 Kinosternon " " " "
- 170 Matrix " " " "

Tag
10121

We went thru Limpia Canyon, a beautiful
 ride, showing the Davis Mts. in all their beauty,
 and to Fort Davis, where we had dinner. We
 then proceeded to Marfa, where we stopped with
 K's aunt, uncle, & grandmother. Rita Young, Gerald Young,
 & their mother.

May 2, 1929 - Thursday

The morning was spent in arranging things, fixing specimens, writing notes and letters. In the afternoon we went 15 miles south of Marfa, Presidio Co., Texas, to San Esteban Dam. Looked along the shores for snakes or fish but saw nothing. The water was very muddy, doubtless on account of the recent high winds. It was still somewhat windy, but not like it was the day before, ~~but~~ ^{and} not very warm.

Lizards were common but not at all abundant, the commonest being a ^{small} blue Cnemidophorus, which ran slowly about little bushes as we approached. K. got another species of Cnemidophorus, one specimen with a salmon colored tail. Hunted about on high ground after searching the lake shore and saw one large lizard which escaped before it could be shot. I stalked this same bush several times again but got no further sight of the lizard. Saw a small lizard playing about an old piece of burlap sack & caught him

in my hand. Shot 3 blue Cnemidophorus.

K. all the time had been down below the dam snoosing lizards. He got 2 of the small Sceloporus, one large scaly collared one, a beautiful Holbrookia, & the orange-tailed Cnemidophorus. The small Sceloporus is the same as the one shot yesterday, which was not in good enough condition to preserve.

On the way out saw a large Holbrookia. We stopped and I hit him on the next run, but he escaped down a hole.

In the morning we photographed our ~~La~~ El Paso Bufo punctatus.

Photos

- | | | | |
|---|--------------|---|----------|
| 1 | B. punctatus | ♀ | El Paso. |
| 2 | " | ♀ | " |
| 3 | " | ♂ | " |

Specimens

- | | | |
|-----|-----------------------------|-------------------------------------|
| 171 | Sceloporus (scaly-collared) | San Esteban Dam, Presidio Co., Tex. |
| 172 | " (small sp) | " |
| 173 | " | " |
| 174 | Cnemidophorus (pink throat) | " |

- 175 Holbrookia San Esteban Dam, Presidio Co., Texas.
 176 Cuemidophorus (Salmon tailed) "
 177 " (Blue) "
 178 " " "
 179 " " "

May 3, 1929 - Friday

Still at Marfa. Set out about 10 AM. with K's truck, to a place in Jeff Davis Co., about 19 miles north of Marfa, Charlie Jones's Ranch. ^{Scattered oaks here.} It is in the foothills of the western Davis Mts. On some rocks near a windmill & stock watering trough we shot 2 Sceloporus, one the small species and the other the large scaly collared one. The latter, at least 2 of which were seen, was very wary. Then we proceeded northwest to Skillman's Grove, a Presbyterian Camp-meeting place.

Across the road from the grove we ascended some of the large canyons, & to the massive red rocks on the left, a mile and a half or more from the road. On the

70
 hills to the left I scared up 6 deer, gray in color, all does. I scrambled about over the hills, thru the sparse growth of scrub-oak & pine, and demolished some sizable masses of rock with the pinch-bar, looking for lizards, but not a reptile was seen. K. got one Cuemidophorus & one Sceloporus.

The growth here is typical of the Davis Mts. Grassy flats and slopes with scrub oak & small pines on the hills & occasional park-like groves of oaks on the flats. There are occasional junipers and a few cacti. The red-rock bluffs are very striking.

- 180 Sceloporus (^{poinsettii}scaly-collared) 19 mi. N. of Marfa, Texas
 181 " (small spec) "
 182 " " N. of Skillman's Grove "
 183 Cuemidophorus "

May 4, 1929 - Saturday

Spent morning at Marfa fixing specimens, packing, writing notes, etc. Started for Ft. Davis about 1.30 P.M. Driving down Limpia Canyon from the town we found a large Pituophis sage crawling by the edge of the road. This was about 3 miles from town. The road fords & refords the creek, now reduced to small pools with, in some places, a slight flow between them. ^{there are little fishes in it.} At one ford we stopped and went along these pools. Many Rana pipiens, adults and tadpoles, were seen & two adults and a tadpole collected. I saw two Hyla arenicolor which jumped into the water & these were taken. We got some of the fish in the dip net. They were ^{same as the} the commonest Cyprinoid we obtained at Toyahvale. A most gorgeous little Uta was running on the sand at the edge of the water and we forced him into the water & caught him. He has the richest caerulean blue on the belly and ^{brightest} emerald green ^{on the} throat. ^{that} I have ever seen on a lizard. Later K. shot another Uta on rocks.

We returned to Fort Davis for supper. On the way out to the camping place we had selected

72
we were stopped a mile out of town by the cotton inspector, Mr. Thompson, & he gave us much information concerning snakes in the region & concerning camping in Big Aguja Canyon, where we had intended going. He was very good to us indeed. Said he had carefully observed many rattlers and that the smaller ones struck harder & used more of their length than large ones. Said one which he carefully watched struck exactly $\frac{2}{3}$ of its length - this a very small one.

We stopped again at the same ford, as well as at another & at a stock-tank, in the hope of finding toads, but all we got was another Rana & another Hyla arenicolor.

At camp we fixed specimens, & while doing so heard a peculiar amphibian (?) call ~~near~~ nearby. It was toadlike - harsh & trilled, unlike any other I have heard. I could find nothing however & even the Ranas seem to have vanished with nightfall. (Later decided it was a bird.)

184 Fishes & tadpoles - Limpia Creek, Davis Mts., Texas

185 Uta (green throat, blue venters) "

186 Uta (on rocks - yellowthroat) Limpia Canyon -

- 187 *Rana pipiens* Limpia Creek, Davis Mts., Texas.
 188 " " " "
 189 " " " "
 190 *Hyla arenicolor* " "
 191 " " " "
 192 " " " "
 193 *Pituophis sayi* Limpia Cañon, Davis Mts., Texas.

May 5, 1929 - Sunday.

Went up the road up Limpia Cañon, but could not follow the topographic map and hence were not sure how far we did go. We were somewhere near Foulkes (Brude's) Ranch. The scenery here is superb. We took several photos here and lower down. Caught a large pink *Masticophis flagellum flavigularis* crossing the road high up in the mountains. The vegetation is grass, with sprinklings of pine and juniper amidst ~~and open~~ an open parklike growth of ~~oaks~~ oaks. All are small trees. We shall ~~come~~ come up here again and search the country thoroughly.

Before we went up we caught 2 *Thamnophis*

74
 along Limpia Creek a ^{couple of} ~~few~~ miles below Ft. Davis, and in the evening L. got a *Hyla arenicolor* in the creek at our camping place, about 6 or 7 miles below town.

At night we went to Marfa in expectation of getting a meal with vegetables and seeing a movie, but the movie doesn't run on Sunday and our tomatoes (1 apiece) were 35¢ a plate. Came home rather disgusted.

- 194 *Thamnophis* ^{550 mm. (tail 126)} Limpia Creek, Jeff Davis Co., Texas.
 195 " ^{365 (82)} " " " " "
 196 *Hyla arenicolor* " " " " "
 197 *Masticophis f. flavigularis*
 Near Foulkes Ranch (6000 ft.), Davis Mts., Texas.

Flushed a kilder (?) off its nest near road in Limpia Cañon & photod the eggs. Bird with black eye region + chin, white forehead, wide upper black collar, narrow lower one, brown tail with black edge.

photos.

STANFORD UNIVERSITY COLLECTIONS
 Locality Mr. Foulkes Ranch, Jeff Davis Co., Texas
 Date May 5 - 1929
 Collector H. M.

- 187 *Rana pipiens* Limpia Creek, Davis Mts., Texas.
 188 " " " "
 189 " " " "
 190 *Hyla arenicolor* " "
 191 " " " "
 192 " " " "
 193 *Pituophis sayi* Limpia Cañon, Davis Mts., Texas.

May 5, 1929 - Sunday.

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 196 *Hyla arenicolor* " " " " "
 197 *Masticophis f. flavigularis*
 Near Foulkes Ranch (6000 ft.), Davis Mts., Texas.

Flushed a beldier (?) off its nest near road in Limpia Cañon & photod the eggs. Bird with black eye region + chin, white forehead, wide upper black collar, narrow lower one, brown tail with black edge.

Photos.

Photos. 4⁵ killdeer nest - Limpia Canyon.

5⁵ Main range of Davis Mts. from Limpia Canyon above Ft. Davis, looking N.W.

6⁵ Ditto, looking N.W.

7⁵ " " North.

8⁵ View from same point looking East.

9⁵ Main range, Davis Mts., from hill near Foulkes Ranch, looking S.W.

10⁵ Ditto looking W.

this on
Monday } 11⁵ Bluffs W. side Limpia Canyon, near the
McCutcheon (?) Ranch.

May 6, 1929. Monday.

Cooked breakfast in camp and got started about 11.00⁽¹⁾ for Toyahvale, to hunt snakes. Went to the creek we visited on the 1st, which we are told is merely a drain from Phantom Lake.

I spent all afternoon knee deep in water (in boots) in a pool half a mile down stream, trying to catch some *Pseudemys*, but I got only one *Kinosternon*. K., ~~up~~ down further, found some in shallow pools & got them. He saw 4 snakes, 2 of them racers, none of which were obtained.

One *Pseudemys* has at least a 12 in. shell.

Returned to Ft. Davis to eat but arrived too late to get mail from Bob. Went out to the Pink-bellworn station & talked to Thompson all evening, then at 10.30 back to town to watch a ^{Mexican wedding} dance at the court house. We stayed till after 4 AM. watching from the balcony. The mass of swaying dancers exercised a fascination, even though the old time orchestra had only a few pieces in its repertoire. The poor bride and groom sat esconced before the judge's bench, for they early became tired, & finally nodded & fell asleep, only to be repeatedly awakened. The orchestra occupied the judge's seats and the jury box was filled with dark-skinned ~~the~~ señoras and their squalling infants. It was a sight worth seeing.

198 *Pseudemys elegans* Toyahvale, Reeves Co, Texas.

199 " " "

200 *Kinosternon* "

201 " "

202 *Cnemidophorus* "

203 " "

204 " Lower Limpia Canyon, Jeff Davis Co., Texas.

205 *Holbrookia* Toyahvale, Texas

206 *Sceloporus* "

Photo:

12⁵ Pseudemys in pool nr. Toyahvale - by Kraughthor.

May 7, 1929. Tuesday.

We arose late on account of our dissipation of the night before. Cooked breakfast & went to town. How happy I was to hear from Bob! Then back to camp & packed up and started for Big Aguja (locally "Awoowhoo") Canyon to see if Sue Duncan would let us camp & collect there. After going to Toyahvale for gas & Balmorhea for oil (!) we went back & found it. But Duncan didn't want his cows bothered, so we ~~g~~ came out - hit the outer of the oil-pump on a rock & broke it off - lost all our oil - tried to coast down to Toyahvale & Balmorhea but had a puncture - fixed that - & crept slowly into Balmorhea - where we now are - in a dirty little auto camp - waiting for the morrow to get our car & tire fixed.

78
May 8 - 1929. Wednesday.

Spent morning fixing specimens, showering, fixing the fine dip net, etc., etc. In afternoon, the car having been fixed, we went over to Toyahvale, to the same little weedy trickle where we got all the fish and the turtles. This we went down for about 3 miles, to where it joins the big wash this side (towards the "weedy-trickle") of Toyahvale. It had dried up completely at this point and no more water could be seen down the wash. As I went down from isolated pool to isolated pool, I kept scaring up a Great Blue Heron which would hop off two or three pools in advance. Several Killdeer seen and one ~~mallard~~ red-head duck was flushed from a pool. Many mourning doves and an occasional road-runner. The drying pools were alive with minnows & cyprinodonts. Thousands could have been collected, as well as many Kinosternon. K. said he saw 2 big fish a foot long or so in one pool. Probably bass. Many sunfish seen - also one small catfish in very bad condition. It did not look like Ameiurus,

but more like Ictalurus. I saw four snakes, two Thamnophis and two Natrix but got only one of the Natrix. I took one small Kniosternon. Three Onychophorus were shot but only one could be found on opening the bag. Did the Natrix eat them? All the snakes were in bushes above pools containing fishes.

At one place, where the stream approaches the rise of ~~30~~ 30 or 40 feet which extends parallel to its course behind it, I flushed a large animal from some bushes. From the one good shot (and this not very good) right ahead of it it appeared to be a very large lizard, well over a foot in length. A man in karafa told us of killing large reddish lizards of about this size and this may have been it. I chased it about thru the brush but had no chance to shoot and it got away somehow.

I returned by the road & not finding K. went to Balmorhea & brought back water & a beer. We were very thirsty. On way back got a ^{horned toad} on the road.

At night we drove east about 5 miles on the San Antonio highway & found Rana pipiens in full song in a little creek. One taken escaped.

80
Back at the auto camp at Balmorhea, after K. had gone to bed, I went to the washroom, and on the floor was a tiny Bufo punctatus hopping about the floor.

- 207 Onychophorus Toyahvale, Reeves Co., Texas.
208 Kniosternon flavescens "
209 Natrix s. transversa "
210 Phrynosoma cornutum Balmorhea, Reeves Co., Texas.
211 Bufo punctatus "

May 9 - 1929. Thursday.

Got packed up, fixed specimens, etc., and started for Pecos in the afternoon. When near Pecos we stopped and hunted lizards a while. All we got were 4 Onychophorus. The desert ~~of~~ about the town is largely covered with mesquite and it is under these ^{bushes} that the lizards hide.

Went to a movie that night in Pecos. Stopped at McKee Auto Camps, Inc.

Specimens:

212 *Onychophorus* Pecos, Texas.

213 " " "

214 " " "

215 " " "

May 10, 1929. Friday.

Mr. & Mrs. Van Gant promised to take us to some places where big rattlers, *Crotalus atrox*, were common. We went to the "Gyp Caves" first. They were small sinkholes with openings at the bottom out on the desert a few miles from town. The temperature was ~~124°~~^{124°} F. in the ~~hot~~ ~~and~~ ~~the~~ sun on the desert floor, and 102° in the shade, by my thermometer. We had arrived about 11.30 and after hunting about in the boiling heat for a long time and shooting many lizards, we gave up. No snakes were seen by any of the 4 in the party.

Then we went to find a ~~dry~~ ~~we~~ well which Mr. Van told us was the den of a

number of big rattlers. Out on the Bankhead Highway, about a mile beyond (west) of the airport, a road turns to the left. Out this ^{on the right} are a couple of wells, by abandoned houses. At the second, which is an artesian gusher, we shot a large *Rana*, and then struck out into the desert behind it for the other well. We didn't find it after hunting an interminable time in the heat. A small dry shaft Mr. Van said was not it. More lizards but no snakes. We were all tired out after our trip in the heat and so came home.

The terrible heat finally brought up clouds in the N.W. which gradually got darker towards evening.

It rained!

The first rain we had had on the trip. A rain in the desert! It is what we have been hoping for, for now we shall get amphibians. When the storm went down towards Barstow we followed it. *Acris* was calling in an ~~creek~~^{irrigating} ditch near Barstow and we got 8. They were calling in other streams right up to the Pecos itself, where I heard a distant chorus,

A gorgeous sunset.

but I did not hear them about Pecos.

On the road back to Pecos we got 2 halfgrown Scaphiopus.

Going straight out the paved road in the opposite direction we soon began to find halfgrown Bufo cognatus on the road. We got one adult and many young, as well as 2 more Scaphiopus.

On the Bankhead Highway out beyond the airport we got 2 adult cognatus.

216 Onemidophorus Pecos, Texas.

217 ✓ " "

218 ✓ " "

219 ✓ " "

220 ✓ " "

221 ✓ " "

222 ✓ " "

223 ✓ " "

224 ✓ " "

225 ✓ " "

226 ✓ " "

227 Uta "

228 Aceris Barstow, Texas.

229 Aceris gryllus Barstow, Texas

230 " " "

231 " " "

232 " " "

233 " " "

234 " " "

235 " " "

236 Bufo cognatus (ad.) Pecos, Texas

237 " " "

238 " " "

239 " " (hgr.) "

240 " " "

241 " " "

242 " " "

243 " " "

244 " " "

245 " " "

246 " " "

247 " " "

248 " " "

249 Scaphiopus couchii "

250 " " "

251 " " "

252 " " "

253 *Rana pipiens* Well nr. Pecos, Texas.

May 11, 1929. Saturday.

In the morning we slept late, fixed specimens, etc. In the late afternoon we went to a rock quarry 5 miles E. of Barstow. Axolotls are supposed to be found here, they tell us. It must be the place mentioned by Strecker. We see them coming up for air, but the water is deep and the only places where you can approach the edge are muddy. We got none.

It starts to rain again soon after we arrive and it pours. And hails! K. went off over the hill to the wash to look for the rattlers said to be here, but none materialized. He got a Uta and each of us a Scaphiopus.

We went back & took the Van Gunks to dinner. Then they took us out the Bankhead Highway & we got a big cognatus and a Terrapene in the road. From there ^{they took us} ~~we went~~ east or N.E. of town to a big artesian well a mile or so from the river where minnows (shiners) are

86

said to be abundant.

It was late and as we went across the marshy ground we got very muddy. Finally we came to the well, which formed a sizable pond. There was a rickety old ladder at water level out to the shaft. There were minnows, many of them, & when we scooped up one of the active little fellows, it was a Characin! My first wild characin, after six years study of the group! It was a happy moment. They were there, little flashing bits of color, deep down in the swirling crystal depths. The bottom of the shaft must have been 25 or 30 feet down, but we could see it plainly by the electric torches. There were some big fellows, 6 or 8 inches long, down there, ~~but~~ ^{and} until K. caught one, just before we left, we thought they were Characins. But it was a Dorosoma that came up in the net. We got a few of a deep blue Cyprinodon here, very different from our Tolyahvale ones. Two large Kribia, with striped heads, look different from the ones near Balmorhea & Tolyahvale. Aeris was calling from the swampy ground nearby, but we did not stop. It was one of the wee sma' hours and we lit for home. When there

we had a midnite (or A.M.!) supper with the Van Gaults & it was near daybreak when we turned in

- 254 Uta Mr. Rock quarry 8 mi. E. of Barstow, Texas.
255 Scaphiopus "
256 " "
257 Bufo cognatus Pecos, Texas.
258 Terrapene "
259 Fishes, 3 spp. Artisan well nr. Pecos, Texas.
(Dorosoma sp.)
(Astyanax mexicanus)
(Cyprinodon sp.)
260 Kniostronon "
261 " "

88
May 12, 1929. Sunday.

Up late on account of our late collecting. In the afternoon the Van ^{Gaults} took us fishing to a creek (Toyah Creek or a large tributary) between Toyahvale and Balmorhea. At a dam we caught Lepomis megalotis (?), Astyanax, & an Ameiurus. We fished lower down and got large Ameiurus & Lepomis for supper. It was 10.30 when we ate and we fished for Ameiurus till 2.00 A.M. Home late. We again had a midnite lunch with the Van Gaults. Toted about 4 AM.

Party consisted of Mrs. Aldridge, Mr. & Mrs. Van Gault, and ourselves. Our supper (10.30) of Lepomis, biscuits, etc. was fine.

- 262 Fishes Creek nr. Balmorhea.
263 Kniostronon "
264 Pseudemys "
265 " "

May 13, 1929 - Monday.

Up late again because of our late fishing at Balmorhea. The car had been sputtering and missing & in the afternoon K. took it downtown & got it fixed, also a shave & haircut, while I fixed specimens. This took all afternoon. In the evening we supped with the Van Zandt's on the catfish we got at 2 a.m. at Balmorhea. Looked hard for some of the pseudoscorpions we had seen with Lorene Aldridge, who had just seen one, but none appeared.

May 14, 1929. Tuesday.

Again fixed specimens and packed, all the morning. Got ourselves well washed up and started for Fort Davis in the afternoon. Stopped some along the road to hunt lizards and snakes, but none appeared. Got into Ft. Davis about 6.30. Stopped to talk to Thompson and he

Photos: 1. Lorene Aldridge 4. Mrs. Aldridge & Jars. - at Inchee Camp.
2. Buck Cagle (Van Zandt) 5. Mesquite desert betw. Balmorhea & Pecos. 90
3. Mr. & Mrs. V. Zandt.

let us camp on his place. It rained soon after we went to bed, but the sleeping-bag, (Gryder's) which I slept in for the first time, shed most of the water. K. I guess fared about as well, with Gerald's tarpaulin.

May 15, 1929. Wednesday.

Up and to town to eat. Letters from home! How happy I was! Looked about our camping place on Limpia Creek at Thompson's Cottonwood and we got 2 Thamnophis. Thompson took us ~~to~~ up the creek & we found 1 one stranded Micropterus and two Ameiurus from the flood the night before. Also one Uta near camp.

At near noon we started for the high country on the Kent road. We went up as far as the Fisher and ^{upper} UN (U up & down) Ranches. Mr. Fisher was very nice to us, gave us supper, and we talked long. He knew K's mother's family long ago. A funny old Mexican, Luis, was his man-of-all-work, and sheep herder. He ^(Fisher) asked us to stay that night & we did. It showered in the evening.

- 266 *Thamnophis* Limpia Creek, 2 or 3 miles from
 267 " " Fort Davis.
 268 Fishes (3) "
 269 *Uta* "
 270 *Sceloporus* (^{*pinnatus*} ~~*scaly*~~ collared) Mr. Foulke's Ranch, Davis Mts.

May 16, 1929. Thursday

Up early at Fisher's Ranch, but it was dull and cloudy so we stayed about the ranch writing notes and ^{doing} various other things. In the middle of the morning we pulled out and decided, as it was such poor reptile weather, to go to Marfa to get our wash, which was to be ready at K's grandmother's house. We went, and K. ate dinner there, but the fried eggs at Fisher's not having agreed with me I was rather badly under the weather, and didn't eat. We did not stay long, but started for Alpine where we arrived in the late afternoon. We stopped one or two places along the road, finding nothing but a dead *Pituophis*

92
 at the railroad crossing. Near the crossing is a ditch with permanent(?) water in which were *Rana pipiens*. I saw one rather newly laid bunch of eggs.

Stopped at an auto camp in Alpine, ate bread & milk in a cafe for supper, & went to a movie in evening. It was *Laura La Plante* in "Scandal" & tho I had seen it before I enjoyed it quite as much as the first time.

We found Alpine quite the most up-and-coming small town near the Davis Mts., far surpassing Balmorhea, Ft. Davis, or even Marfa. This is doubtless because of the location here of the Sul-Ross Teachers College.

We determined to go up to the College building next day to see if there is a biologist on the Faculty who perhaps might know something concerning snakes, amphibians or fishes.

At night, walking across the camp I found a halfgrown *Bufo cognatus*. It had been raining in the evening so I decided to go out a-ording, K. having gone to bed. This I did and though ~~it~~ it rained hard while I was out with the car, I saw but one frog,

which escaped me. Home & to bed.

271. *Bufo cognatus* Alpine, Brewster Co., Texas.

May 17, 1929. Friday.

Spent the morning re-arranging specimens, doing up ^{miscellaneous} lots of unwrapped fishes, labelling several turtles from Balmorhea and Pecos, and getting packed.

In the early afternoon we went up to the Sul Ross Teachers College. We found that the prof. of Biology, Mr. (or is it Dr.) H. J. Cottle, was not in, but a fellow there let us examine a small series of formalin specimens that was in the cabinet. A number had been determined by ~~the~~ A. H. Wright of Cornell, when he was through this region several years ago. The toad he called *B. compactus* (sic) seemed to me to be a young *cognatus*. There was a young rattler from Alpine which we identified as ~~C.~~ *C. confluentus*, a *Sonora episcopa*, several *B. cognatus*, and others from near Alpine. ~~One racer, young, from~~

~~the Sul Ross grounds, an adult *Ambystoma*, and the rarest one of all we were allowed.~~

I soon found a queer looking snake which on pulling out of the bottle I immediately recognized as an *Elophe*, and finding it had about 50 ~~dark~~ cross bands, as *E. bairdi* — the second known specimen! It was from Ranger Canyon, near Alpine.

We hurried over to Mr. Cottle's house, but he wasn't there, either, so we returned & checked the *Elophe* on Blanchard's key. It is *bairdi*!

Soon Mr. Cottle came in and we talked with him about the snake. He let us borrow it, with a young *Masticophis* and an ^{adult} *Ambystoma* from near Alpine.

Another gentleman, to whom Mr. Cottle introduced us, said that blind fishes have been reported from the cave stream feeding Phantom Lake, near Toyahvale. We shall go there!

It was late by then ~~so~~ ^{but} we started for Ranger Canyon, couldn't find it, and went on to Fort Davis. There, after talking to Thompson, we camped by his cottonwoods.

May 18-1929. Saturday.

Up and to town to eat. Then off for the high country. It was noon when we got up beyond Foulke's. Along the road we met one of the Texas State Highway Survey bunch that we saw up here before & he told us he had staked a trail out to a tree for us.

~~At~~ We got up there and after waiting around & hunting around a while a fellow came in who knew where the snake was. It was a Crotalus molossus. Names of the two who caught it: - Hubert McCarty & Clarence Morrison.

We went on, found a camp site (dry) - and at 2 P.M. started up the high mt. opposite. The top must be over 7000 feet. I reached the top after 4. On the way up I saw a racer that must have been C. constrictor flaviventris.

On the top I got several good photos, as well as a Sceloporus. On the way down I found a tiny Hyla arenicolor in a rain-water pool. Pines of 2 kinds on mt. Towards top were some groves of long-leaf, 40 to 70 feet high.

Pinon was abundant, as well as two oaks, a larger one with deep cut pointed leaves, & a smaller with soft oval leaves. I saw one tree like this ~~one~~ & near bottom some with stiff leaves resembling the coast live oaks.

K. got a number of lizards.

Tired & to bed early.

- (near Foulke's Ranch)
272 Sceloporus (spiny-collared) Up & down Ranch - Davis Mts.
273 " " " Texas.
274 " (small sp.) "
275 " " "
276 " " "
277 Uta "
278 " "
279 Hyla arenicolor "
280 " "
281 Crotalus molossus "

Photos. - from top of mt. on UP ranch -
2 of Livermore.
1 of other direction
1 of pines on way up
1 of pines on way down
1 of vegetation on top.

May 19, 1929. Sunday.

Up and cooked breakfast. + In the afternoon we again climbed the hills, K. going over the big mountain and I over the smaller hills opposite camp. K. got a big skink and some smaller lizards. All I saw was one Uta which I caught on a rock. Back to camp early as I was fogged in mind & body. Read a magazine for a while and partially recovered. After K. came down we ate and then went over to the elbow bend just on this ~~N.W.~~ (N.W.) side of Foulke's (Prude's) to the State Highway survey camp. Here a nice young fellow helped us with our location on the map, telling us that the camp was over 6100 feet, not below 6000, as the foot. topo sheet would have it. We sighted at our mountain & told us that it was about 800 feet higher than their camp, which is across Brown Canyon from it. It thus is less than 100 feet under 7000 feet, not several hundred, as the topo sheets show.

Then over to Fisher's to get water, —

The whole family, save the eldest boy (Jesse Jr.) who works at UN, was there, but they insisted on us staying, and we did!

282	Eumeces	UN ranch, Davis Mts., Texas.
283	Uta	"
284	"	"
285	Sceloporus	"
286	"	"

May 20, 1929. Monday.

Up early at Fisher's & had a good breakfast. I did not partake of the fried eggs, mindful of my former experience (see May 16), and fared better. It rained in the morning and while we were out watching the pastoral and other chores, we found some tiny toadlets hopping about the house. They were Bufo punctatus! And then we got two little B. cognatus, one behind the house, the other towards the creek.

Off about ten, northward on the road to Kent.

The road was bad, and very poorly marked in places, and soon we found we were off the road. This was about a ~~mi~~ on the side road about a mile above the Caldwell ranch stone house. We crossed the creek and immediately the road became very faint. The canyon turned rather abruptly at this point. It was rather heavily wooded and there were many flat rocks on the slopes.

~~We hunted~~

R. turned over a rock and got a Tantilla! This spurred us on and we enthusiastically turned rocks for a half hour. Seeing we were getting nowhere I walked a few steps down the creek and was about to turn back when something caught my eye. There were a few pools in the creek bed from the rain and at one's brink, behind a big rock, I saw a striped snake. I seized it — and it was an Elaphe! I could not place it because it was 4-striped, like quadri vittata, which could not occur here. But on getting it into my hands I saw its crossbands, faint but visible, and ~~knew~~ knew it to be bairdi. It is the most delicately colored

100
and beautiful snake I have ever seen. It is pearl gray, every scale ~~and~~ margined with yellow & with red. The red is a little deeper where the extremely inconspicuous cross bands are. There are four distinct longitudinal ^{dark} stripes, as in quadri vittata, the lower ones less distinct. Undoubtedly there is a color metamorphosis, as in the aforementioned species.

We went out again but with little luck. K. got one Uta!

We left, and finding no one at the stone house, went to the Caldwell Ranch to ask the way to Kent. The woman there told us, but did not know the name of the canyon we had gone ^{down} ~~up~~. There is little doubt that it was the head of Cherry Canyon.

A little way out the Kent road, in more open country, we shot a Crotaphytus collaris, the first we have seen in the Davis Mts.

We climbed a hill near here and took photos of Saw-tooth & other surrounding points. We entered the flat basin to the north, with its guide post, the big flat topped mesa, and after getting off the road sundry times and riding long, we arrived at Kent. Stopped at the Kent Hotel.

- 287 *Bufo punctatus* Fisher's Ranch, Davis Mts., Texas.
 288 " " "
 289 " " "
 290 " " "
 291 " " "
 292 *Bufo cognatus* "
 293 " " "
 294 *Tantilla* ^{L. 197 mm. Tail 18 mm.} Cherry Canyon, Davis Mts., Texas.
 295 *Elaphe bairdi* "
 296 *Uta* "
 297 *Crotaphytus* N. of Baldwin's Ranch, Davis Mts., Tex.

Photos.

- 12⁷ Fisher family
- 1⁸ Locality where *E. bairdi* was captured.
- 2 View up Cherry Canyon.
- 3 Cherry canyon at pt. where *E. bairdi* was caught.
- 4 Saw tooth from W. Kent road.
- 5 " "
- 6 Flat lands N. of main Davis Mts. (see mesa.)
- 7 " "
- 8 View W. east from same pt.
- 9 View of hill S. of bad lands.

May 21, 1929. Tuesday.

Started off from Kent with the weather looking heavy and spitting fine rain. Very poor reptile weather and too cold and not wet enough for toads. We headed for Phantom Lake, near Toyahvale, where we wished to ferret out rumours of blind fishes in the cave. Thompson had told us to see Charlie Splittgarber there and that we should be well treated. We arrived a little before noon in the rain and waited for our man to come home from getting the mail. We varied the time by going out to the lake - less than a mile - and looking about. The lake is a small affair, possibly a hundred yards long and two thirds as wide, and is formed by the outflow of an underground stream from the forty foot cliff at its end. The stream is perhaps fifteen feet wide and six feet deep at the point of issuance, and crystal clear. The flow is very strong; in the less deep ^{lake} outlet it was perhaps of 4-mile

an hour velocity. At the cavern mouth our thermometer registered a shade below 80° F. Whether this is due to hot springs or not I don't know. I rather suspect it is, for the clearness of the water in a rainy time seems to show independence of surface conditions. On the bottom ^{in the cave mouth} schools of minnows, some catfishes, and many turtles could be seen as if no water whatsoever separated us. Gambusia swarmed at the surface.

We went back to see Splittgarber and about 1 P.M. found him. He was an interesting old fellow, knowing much of the animals and having heard of Lampropeltis alterna. This he says, through Dr. & Mrs. Ruthven and Dr. & Mrs. Gaige having spent 4 months here with him a number of years ago!! Verily, a horde of herpetologists have visited this region and we knowing of none of them before we came! But none have obtained the Lampropeltis and none but we have gotten Elaphe bairdi! Splittgarber says

Ruthven found a snake he said was new in his (Splittgarber's) house and that it would be named after Splittgarber, or Toiyah, or the like! Such has never been published. Doubtless a snap judgement in the field.

Ruthven was here at least 12 years ago, before prohibition by Splittgarber's tell, the memory recalled because of some discussion of preserving specimens in alcohol. The Gaiges still keep up correspondence with Splittgarber, and this summer are to be in the Big Bend country.

Splittgarber took us to the cave, which is not the one from which the stream issues, the latter having no foothold for ascending and being blocked down to the surface some distance up. The cave is perhaps $\frac{1}{4}$ of a mile downstream, the entrance a deep hole in limy-looking ground. We went down and on to the big room, perhaps a hundred and twenty feet long and 30 feet high, with many bats. Splittgarber could go no further, having business to attend to, but promised to take

us down to the water on the morrow. We came out & he left.

The cave is a dry one, with no stalactites or stalagmites, and there are few air currents and these in ~~but~~ ^{only} a few places. The air smelt stagnant but was not bad. The bar guano was smelly, of course. The big room ~~cannot~~ ^{can} be ^{little} more than a hundred yards from the bottom of the descent - 30 or 40 feet - and possibly much less.

We went to the lake and fished and bathed and washed dirty clothes until nightfall.

The lake is positively alive with small fishes - Astyanax mexicanus, Gambusia sp., a Cyprinoid, and Cyprinodon, in ~~about~~ the order of their abundance. We saw some

Catostomus in the lake outlet and in the lake but caught none. Bass have been introduced and they say crappie, too.

I saw one sunfish and some blue catfish. The Characins swarm beyond all comparison in the warm clear water. ~~but they~~ Thousands are brought up by a few cracker crumbs but they did not bite ^{at} us when we went in

106
as did Breder's Astyanax ruberrimus in Panama. They hung about close however, hovering about our toes and hands. The big ones (4 or 5 inches) were impossible to catch - ~~except~~ except by hooks which we didn't try, having no bait. A view across the lake reveals myriad silver flashes and accompanying splashes every moment - jumping Astyanax. A bird flying low causes a ripple across the whole lake. The striped Cyprinoid, the same as our unknown one of ~~the~~ May 1st, swims with the Characins, but the Gambusias keep nearer shore, only the larger adults venturing out in shoals near the smaller Characins. The Cyprinodons grub about the bottom, not in schools, and the young are found with Gambusia in the bushy algae, etc., at the shore in very shallow water.

#298 Fishes Phantom Lake, Toyahvale, Texas.

May 22, 1929, - Wednesday.

Up late and spent rest of AM. cooking breakfast, fixing up various things, etc. In the early afternoon we went over to see if Mr. Splittgarber would still have time to take us down to the stream in the cave. Finding him, he said he had some horses to go to Balmorhea about and couldn't. He gave us explicit directions how to reach the water and we went over to the cave. After reaching the big room, one proceeds on through the passage which leads straight on from the far left hand corner of the room. After a while a passage leads directly to the left. This should be taken (not going straight ahead as would seem natural) and soon rushing water is heard roaring distantly down a very narrow crack to the right. It is a painful crawl down this crack, one edging sideways with scarcely room to breathe. It is especially hard with six foot nets & a collecting can.

At first we went beyond this crack & got

down thru a little passage to a pool of muddy water in which there were fish.

We got 2, & they were eyed Ameiurus or Scalurus.
Crawling back we got to the right crack & went
down. K. was first & I could not see ahead.
He finally came to the water & said he could
see the running water ahead. The water was
of the same crystal clearness as that of the lake.
K. said he could see 2 catfishes, with eyes,
but the water was well up in the crack & there
was a stretch of mud, so we didn't get them.
Splittgarber told us we could get down to the
stream & walk along the edge of it, but K.
said this was not possible, so we came out.
Some Rana pipiens were hopping about in
one of the passages & we took one.

We went to Balmorhea for dinner & again slept at Splittgarber's camp.

299 - Catfish - ~~The~~ Cave at Phantom L., Toyahvale ⁴/_{ex}
300 " "
301 *Rana pipiens* "

May 23, 1929 - Thursday.

Finally got started for Marfa, altho I would like to have stayed & gone up into the hills again after the red-finned, spiny-rayed, one-striped, elongate, bass-like fish ^{minutely} described to us by Splittgarber as occurring in the hill streams. He said it was not a bass with a single stripe, but had a similar side-stripe. It may be something new.

It had been raining in the Mts. & Limpia Creek was a raging river. Car got water in engine & stopped 3 times in as many places where little side-streams crossed the road so we did not think of attempting the main stream to get to Davis. On way back we went into the ditch twice on the slippery clay road and had to be pulled out. Got some fine (we hope) storm photos of the Mts.

(McCutcheon refused to pull us out of the ditch. - Warn all future visitors concerning him & his ways.)

Finally decided to go around by Ft. Stockton & Alpine to Davis & Marfa.

Got to Ft. Stockton late & stopped in an awful Auto Camp.

Heard Acris pyllus & Bufo woodhousii at a large lake on right of road from Balmorhea to Stockton, near the latter place. Got none altho we searched. The lake is about 1/4 to 1/2 mile from road.

Between Toyahvale & where we got stuck we got a fine Terrapene ornata in the road. Later lost this. It was taken just within the Davis Co. line.

May 24, 1929. Friday.

Started rather late for Marfa by way of Alpine & Ft. Davis. Roads still a little slippery. Just before getting into Alpine we saw a Crotaphytus collaris which went into some rocks. We dug deep but the hole was deeper. K. saw a Holbrookia & got it. It had a short tail. Then he got another but tho we searched long, no more were seen. ^{It was open country with patches of brush.}

From Alpine we went to Ft. Davis to get mail & say goodbye to Thompson. Again letters from home were good but news of a telegram waiting at Marfa disturbed me. We took photos of the Court House, the old Fort, K's family well, & saw Thompson.

Started for Marfa about 7 P.M. Had a flat & found another tire far down with a big nail. — And one of our spares had gone flat. Tried to get into Marfa on the low one but it went down & we made the last 6 or 8 on the flat!

I got the telegram & found it had been chasing me for 4 or 5 days & that Bob

was ~~gone~~ in Indiana!

Stopped that night with Es people, the Yungus, in Marfa.

302 - Holbrookia Alpine, Texas.
303 " " "

May 25, 1929.

Started at last for El Paso. Some distance out, not so far from Van Horn we blew a tire & nearly turned over.

Travelled long and in late afternoon, about ~~40~~⁷⁰ and 40 miles respectively from El Paso we got a ♂ and a ♀ (also resp.) Terrapene ornata in the road. Also ran out of gas!

Had much trouble with car lights towards night.

At Tornillo, I heard a new food call, a trilled rattle, with much of the timbre of Acris in it, together with woohousii calls,

from an irrigation ditch. I hunted it up & finally caught one in the act. It was a fine male B. cognatus. The throat sac is of the same shape as shown by Miss Dickerson's photo: - So: -



very different from other Bufo's. The call is totally unlike that of any other toad I know, being much harsher, with a rattle.

Also got a singing woodhousii & another cognatus & K. got another woodhousii. The mosquitoes were so terrible that I could not stand it longer, & we retreated. As it was I was well puffed up.

got in E.P. late & to Camp fraude.

304 Terrapene 70 ~~mi.~~ S.E. of El Paso.

305 " 40 mi. " " "

306 Bufo woodhousii Tornillo, Texas.

307 Bufo woodhousii Tornillo, Texas.
308 " cognatus "
309. " " "

May 26, 1929. Sunday.

K. went to his brother's & I stayed at Camp fraude. Nothing to do. Went to movie. Stayed alone at Camp fraude.

May 27, 1929. Monday.

Still at Camp fraude. Nothing to do. This is getting monotonous. At night heard some cognatus a few streets away but could not get to them. Stayed alone at Camp fraude.

Later found K. got 2 Arizonas at night but one died.

310. Arizona elegans El Paso, Texas.

May 28, ^{and 29} 1929. Tuesday and Wednesday

Still at Camp Grande. Got desperate towards noon & packed up things. K. signified intention to go when I ^{finally} got in touch with him late in the afternoon. We started for Tucson & drove all night, going by the little used road thru Maricopa and missing arriving in

311	Heloderma	Tucson.
312		
313		

Tucson about 9 AM.
 May 29 Went over and saw Walter P. Taylor, & he was very pleasant. Toward noon we went over & saw Evelyn Snyder & got the fila monster she had for us. Mrs. Lydia B. Rancier gave us 2 Phrynosoma solare.
 We played cards & slept in the afternoon and at night went with Evelyn to ^{get music} dance place. Fine orchestra but later went to Blue Moon & the floor & music were finer. Home & we pitched our cot & blankets in Carroll's back yard.

- 311 Heloderma suspectum. Tucson, Arizona.
 312 Phrynosoma solare "
 313 " "

May 30, 1929 - Thursday.

Spent morning getting ready, etc. Left in afternoon, taking ^{the} road by way of Maricopa. Talked to station agent at Maricopa & he said about 40 "big green toads" lived under the station, not appearing until the first rains, which had not yet come. Last year they made such large burrows at the edge of the bldg. that a little boy got his leg caught in one & they had to fill them up. A local amusement is feeding lighted cigarette butts to the toads. He said they would even eat full sized tarantulas, but could not master a Pepsi he tried to feed one. These alvarius are mighty toads!

In the evening, at Mobile, a section house on the R.R., K. saw something in the road. I got out & it was an alvarius, our first! I asked the man, who came out of the house,

whether he ever saw any. He kept his lawn well watered + said 2 had lived under his front steps for several years. We hunted for them but found only one. The one on the road must have been the other. No. 2. was hopping about the flowers & lawn.

We went on beyond Gila Bend on the main highway and made a dry camp in the desert. We went out with flashlights after night snakes but it was rather too cool and after about 3/4 of an hour we came in, neither with anything.

~~314 #~~

314 Bufo alvarius ♂ Mobile, Ariz.

315 " " ♀ " "

118
May 31-1929 — Friday

Rose to the sound of workmen hammering on the R.R. Went on breakfastless to find an eat's shop, as we didn't want to spend time cooking. (It's a rare horse that doesn't travel faster on the home stretch!) A little east of Mohawk, Arizona, we found a snake dealer's place beside the road. Name Rudolph Hale, address Mohawk, Ariz. He is a German of perhaps 35 or 40 years. He had several rattlers of various kinds. He had a fine little Crotalus molossus, which he said was from Cabeza Prieta, near the border, altitude 2000 ft. I thought we ought to get it when he said he only wanted a dollar for it. Finally K said we would take it, but I discovered it was for himself! I hope it goes in the collection finally. Then I bought myself a little sidewinder for 40¢, caught in the vicinity, which I shall keep alive but place in the collection when pickled.

East of Yuma we stopped and caught a fine big Dipsosaurus, our first, but he

escaped from the can on the Sand Hills west of the Colorado.

Passing through Yuma, crossing the river, and arriving on the outskirts of Ft. Yuma, Calif., we saw more Dipsosaurus. K. ran one down and noosed another, and I noosed a third. The weather was warm & many lizards were out, more than seen anywhere before. I saw some Callisaurus and, I am fairly sure, a ~~few~~ Uma, here. ^{And} It was not loose sand!

At the Sand Hills we stopped to get some live Umas & we each got one big one and K. an extra small one. Mine I played hide and seek with around a tree & some bushes for some time. I could approach within a yard before he moved. Finally he scampered over a dune & I followed his tracks where he ran down the other side, around a bush, and dug in. With one swish of both hands there he sailed I uncovered him & he tried to "swim" back in again. Their movement is exactly like a lizard swimming.

120
From a distance of about 200 ft, from the road, I watched one big Uma ~~run~~ along a dune, dive in, and the ripple of sand showing his progress ^{underneath} extended at least 5 or 6 ft. It scarcely took him a second to travel that far under the sand. Of course his momentum from the run must have been great and the sand was very loose, — the edge of a drifting dune.

It was here we lost our fine first Dipsosaurus.

We proceeded through the Imperial Valley and at nightfall had just arrived at the mountains. In the tumbled rock masses at the entrance to the canyon up which the road goes Klauber told us we would find Phyllodactylus, but though we turned rocks and chipped off flakes with the pick bar for an hour we saw nothing. — I did see one lizard, though, a Uta maurisi, I think, but it escaped.

We got up into the mountains and nearly froze, after the heat of Imperial Valley. We ate at a clean little restaurant in Jacumba, & the food was good. I had urged pushing on, hoping we might get some of the rare toads,

Bufo cognatus californicus before it got too late. But it was very cold, too cold, I thought, for toads. I was mistaken.

They were repairing the main road near Descanso & we had to turn off to the right (north). A little beyond, just across a bridge and along the creek (Sweetwater River I believe) many Hyla regilla & some I took to be H. arenicolor were calling. Finally one toad ~~call~~ was heard ^{calling}. It was a high sweet prolonged trill, reminding me of B. americanus but not quite so beautiful. It could not have been B. halophilus & therefore must have been B. c. californicus. I stalked the toad for 20 minutes but he would not call when I got within 15 or 20 feet. He was just on the other side of the small creek but I could not see him. It was very cold & I finally gave it up.

This data on the B. cognatus californicus seems very important. The call is extremely unlike the call of B. cognatus cognatus & the ~~set~~ forms are not, to my mind, at all closely related.

122
We drove in and got to an auto camp in San Diego about midnight.

- 315a Crotalus cerastes Mohawk, Ariz.
316 Dipsosaurus dorsalis Fort Yuma, Calif.
317 " " "
318 " " "
319 Uma notata. Sand Hills, Imperial Co., Calif.
320 " " "
321 " " "

Took photo of Dunes.

June 1, 1929 — Saturday.

Slept late on acct. of our late arrival. Got in to see Klauber at the gas & electric Bldg. at 11.30. He was glad to see us and asked us to come to his house in the afternoon. We ate, went to the zoo and saw the snake house, then went to see Klauber. He was

very much interested in our finds ~~and~~ especially the Elaphe & the Bufo alvarius. He said he thought he could help out with Eusatina and with some Bufo c. californicus, since we got none. He had about 2 doz. live adults of the latter & let me pick out 6 fine ones. Gave us a paratype (preserved) of E. klauberi and much other material. Expressed the hope that there would be a revival of interest in the herpetological collection at Stanford.

322	<u>Gerrhonotus</u>	Camp Kearny, San Diego Co.	
323	"	Oceanside	"
324	<u>Phrynosoma</u>	Lemon Grove	"
325	"	El Cajon	"
326	"	"	"
327	"	"	lost "
328	<u>Aniella pulchra</u>	San Diego,	"
329	<u>Pituophis</u>	Escondido	"
330	<u>Hyla arenicolor</u>	Rincon	"
331	"	"	"
332	<u>Rana a. draytonii</u>	"	"
333	"	"	"
334	<u>Bufo c. halophilus</u> ^{her.}	Morena Dam	"

124

335	<u>B. c. halophilus</u> ^{her.}	Morena Dam, San Diego Co.	
336	"	adult Rincon,	"
337	"	"	"
338	"	"	"
339	<u>Bufo californicus</u>	"	"
340	"	"	"
341	"	"	"
342	"	"	"
343	"	"	"
343a	"	"	"
344	<u>Eusatina klauberi</u>	Descanso,	" (Apr. 1, 1925)

Klauber said he had heard the sweet sad trill everywhere he got B. californicus but never could actually track one down. Later one called in the collecting can & I definitely connected up the calls with californicus.

We left late in the afternoon for Los Angeles, & stayed with K's. parents that night.

June 2, 1929. — Sunday.

H. wanted to stay awhile so we did not start north till about 4 P.M. I listened along the way towards dark for road calls but none were heard. B. Californicus will probably be found at least north to Santa Barbara. I wanted to see the Santa Barbara museum but it was too late, of course.

We drove on as far as Buellton, where we stopped in the little hotel across from the Buellmore. It is a nice place, the little hotel.

June 3, 1929. — Monday.

Drove on to Los Alamos where we got a new tire and had the wheels straightened. The car is in bad shape.

Arrived in Palo Alto at about 8.30 P.M. My, but I was glad to see Ruth!

Total distance covered in car - 5,650 miles.

126

Results of the Trip.

1. Our most important acquisition was the adult Elaphe bairdi Yarrow, of which only the juvenile type, taken in 1879, was hitherto known. Most interesting is the obvious, and hitherto unexpected fact that the adult bairdi is a striped and not a banded snake. There is, thus, a color metamorphosis in this species, much like that of the southeastern Elaphe quadrivittata.
2. The range of the turtle, Pseudemys elegans, is extended far to the west, to the foothills of the Davis Mts.
3. The faded night snake, Arizona elegans, is common at El Paso.
4. The population of Bufo cognatus on the eastern edge of its range, in the Pecos Valley, is characterized by a reduction and occasional absence of the cranial crests, and the breaking up of the characteristic color spots of the back.

It may be a distinct race approaching Bufo compactilis.

5. The ^{known} range of Bufo woodhousii is ^{now} extended over the whole Imperial Valley and south into Lower California at Mexicali. It was found at Harper Well, 10 miles from the San Diego Co. line.

6. The very characteristic call of Bufo woodhousii is identical with that of the eastern B. fowleri, definitely showing very close relationship and tending to confirm Strecker's finding that they appear to intergrade in East Texas.

7. Bufo cognatus californicus is wholly distinct from Bufo cognatus and should rank as a separate species. Their calls are entirely different, the kidney shaped vocal sac of cognatus is not seen in californicus, the colors are different, californicus is only half the size of cognatus, their ranges do not interlap or even touch, and there

is no intergradation!

8. The apparent gap in the range of Aneides lugubris along the coast is closed to a large extent by specimens collected by us.

9. Specimens of 2 very rare cyprinodont fishes, Gambusia nobilis and Cyprinodon elegans, were secured in great numbers in Western Texas.

10. The range of Uta microscutata of Lower California is extended to northern San Diego County.

P.S. I do not know whether the ^{fish} fauna of the Los Angeles River is known or not. It appears to be the same as the Santa Ana! We got the naked stickleback + Notolepidomyzon santa-anae Snyder

About 130 Photos taken - of habitats, animals, etc. Photos by G.S. Myers.

669 star. 8
which is to be used.

1 March 1901
to 1 April 1901

Amphibians From the Mexican Border and Southwestern United States.

By George S. Myers.

The writer, in company with Mr. Gregory M. Krantz, journeyed through the Southwestern States during April and May 1929 in the interest of the Natural History Museum at Stanford University. Our principal object was the investigation of the reptiles, particularly the snakes, of the Davis Mountains, Texas, and we were successful in obtaining ^{three} two specimens of Elaphe Bairdi Garrow, hitherto known only from the type, collected at Ft. Davis in 1879. As opportunity ^{was} offered ~~amphibians~~ ^{batrachians} and fishes were taken, but when it ~~is~~ ^{was} held in mind that considered that we covered over 5,500 miles by automobile in seven weeks and that over nearly all the area traversed the rains had not yet arrived, it is not to be wondered that we obtained few amphibians. Some ^{very} interesting data ~~was~~ ^{were} secured, however.

It is abundantly realized by ^{careful} field students of the frog and toad that the calls of the various species are highly characteristic, and are in fact good taxonomic characters, the more so in that ^{the sound obviously} ~~they~~ trace their origin ^{both} to the differing morphological structures of the vocal apparatus and to the peculiar physiological ~~characters~~ makeup of the various forms. Thus the

most striking difference between the two ^{very similar} common
eastern toads, ~~for~~ ~~me~~ (Bufo fowleri and B. americanus)
for many years confused by herpetologists, is ~~in their~~
~~voice~~ not in an ^{external} ~~visible~~ anatomical character but in
their sharply different calls.

The writer was ^{extremely} fortunate in being ^{wholly} familiar
with the calls of the eastern toads when making
observations on three southwestern species, and
the differences and similarities of the voices ^{heard} have
pointed out some important ^{taxonomic} conclusions.

1 Charles
B. Publications

669 total. of
which 100 is fail.

Scene I.—Immigration of Sursimwe
cotton. Emphasis of cotton inau-
of Welcome. Exchange of presents.

Deer Dance by Hopi.
Cotton Dance by Pima.

Scene II.—Contest in cotton raising. (*Harvest time of the
following year.*)
Harvest Festival. Decision of the contest. Choos-
ing the prize, the Fairest Maiden in the Tribe.
Decision blocked.

Eagle Dance by Hopi.

Scene III.—(*Four days later.*)

Athletic contest for final decision. Wedding cere-
mony and wedding festival. Basket Dance by
Indian maidens. Chant to the Gods, joined in
by all.

Corn Dance. Corn grown by Magic.

Harvest Chant and Dance.

EPISODE III. CASA GRANDE PEOPLE.

Scene I.—Immigration of Strangers from Southland bringing cotton. Emphasis of cotton industry. Feast of Welcome. Exchange of presents.

Deer Dance by Hopi.

Cotton Dance by Pima.

Scene II.—Contest in cotton raising. (*Harvest time of the following year.*)

Harvest Festival. Decision of the contest. Choosing the prize, the Fairest Maiden in the Tribe. Decision blocked.

Eagle Dance by Hopi.

Scene III.—(*Four days later.*)

Athletic contest for final decision. Wedding ceremony and wedding festival. Basket Dance by Indian maidens. Chant to the Gods, joined in by all.

ADMISSION



SAM CHIEF

Old Medicine Man of the Navajo

Maker of the Sand Paintings in the Arizona State Museum

- Historical High Spots -

OLD Fort Davis was established to protect the immigrants and the California mail—but there was history before that. Forty-three years after Columbus discovered America, the Spaniard Cabeza de Vaca discovered Southwest Texas. He and his three wandering companions passed through the Big Bend and Davis Mountain region.

THIS was Apache Land. When the Government began carrying mail to the Forty-Niners in California the Indians interfered. Jefferson Davis, then Secretary of War, ordered a military post established in West Texas. After a wide search for the best site, the Davis Mountains were chosen, for their coolness, the fine year-round climate, pure water. In 1854 the Eighth U. S. Infantry came and established the post in the doorway of magnificent Limpia Canyon. Many fights with the Apaches took place in following years.

SOLDIERS remained at the old adobe fort until 1891, when the post was abandoned. It still stands, a historical ruins, a poignant reminder of old frontier days, a sight vastly worth seeing, perhaps the most remarkable old fort ruins in all the West.

- Wealth of Scenery -

FEW if any towns on the continent afford a greater natural scenic beauty, more easily accessible, than Fort Davis. The mountains all around, the plains, tremendous Limpia and Muzquez canyons, the sunny basins where cattle graze, winding roads—all constitute a great diversity of opportunity for outdoor recreations. Here are mountain fastnesses, rock gorges, towering cliffs, curiously shaped rocks, old Indian cave shelters, mountain hiking trails for pedestrians or horsemen, and distant views that awe or charm one with their immensities.

THE DAVIS MOUNTAINS
are the scenic wonderland and mountain
resort country of Texas

Fort Davis

The Mile-High Town

THE village of FORT DAVIS is the coolest summer resort in Texas. It is the "highest" town in the State, being 5,200 feet above sea-level, the same as Denver. It is in the heart of the Davis Mountains, which attain an altitude of 8,382 feet. The roads are good. The mountain scenery, the peaks and canyons and sunny upland pastures, have a singular charm and beauty all their own.

RECREATIONS

Golf	Dancing
Horseback Riding	Picnicking
Swimming Pool	Tennis
Scenic Drives	Motor Trips
Mountain Climbing	Hiking
—and just resting!	

ACCOMMODATIONS

Hotel Limpia	Shady Nook Inn
Mrs. A. G. Prude, ranch	M. H. Sproul
Mrs. F. M. Miller, ranch	C. E. Hasbrook
Tourist Camp	

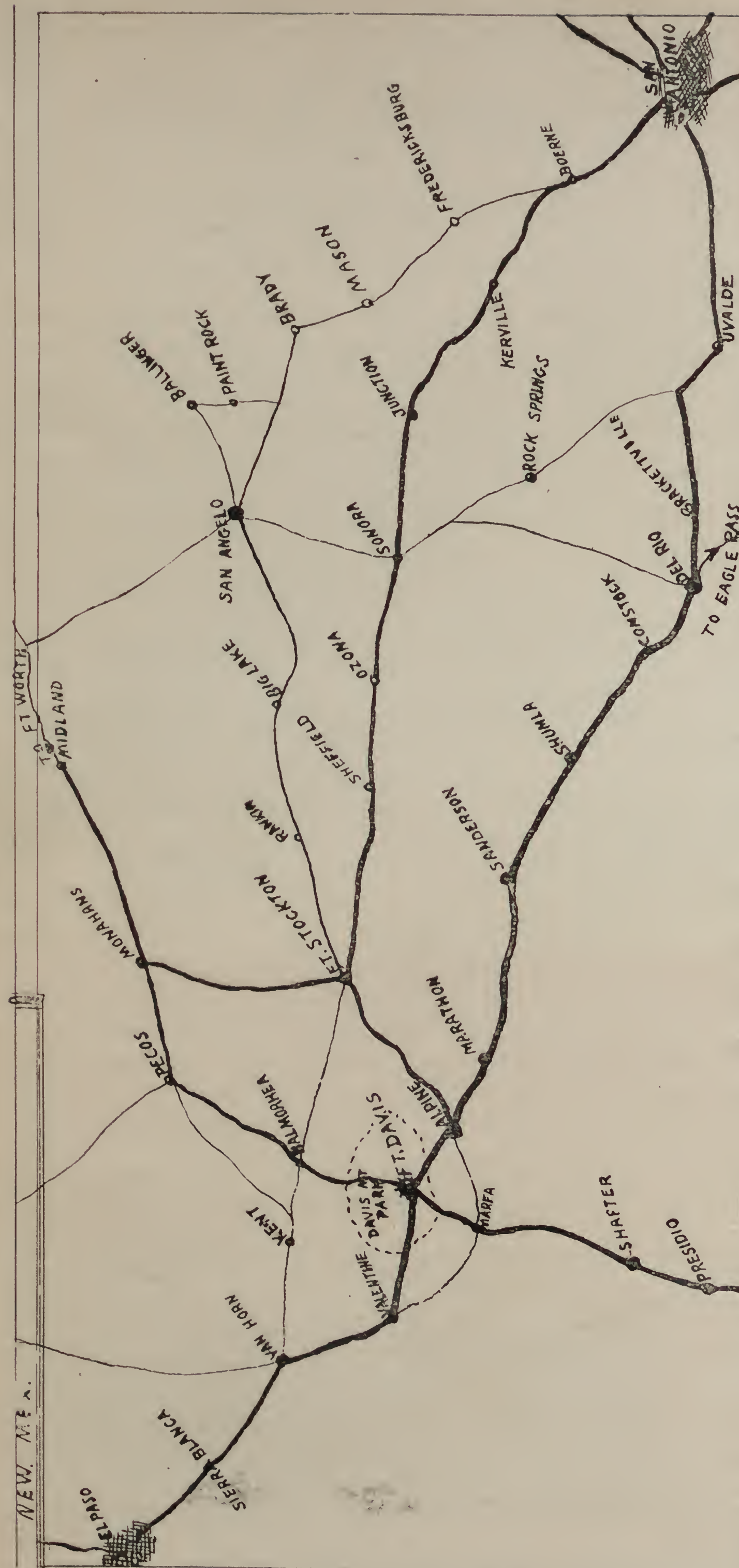
WEATHER

No day in summer is too warm for comfort. Every evening and night is cool. Wraps are essential. Blankets are usually needed for sleeping—and such nights,—such sleep! Recuperating, invigorating, appetite creating.

The famous CARLSBAD CAVERNS are only 160 miles from Fort Davis. Many summer folk make the drive from here.



PART OF OLD FORT RUINS



- Geographical Location -

A GLANCE at the map will show you where Fort Davis is with reference to other towns and cities. Good roads lead from all directions.

THIS little mountain village has something that even cities can not boast—a mail service every day in the year including even Christmas and the Fourth of July!

There is long-distance telephone connections with any portion of the country. Also banking facilities. A city electric and power plant.

FORT DAVIS has no railroad—which makes it unique and peaceful! The town is 25 miles from Alpine and 23 miles from Marfa, which places are on the Southern Pacific. There is daily automobile service from Marfa.

FORT DAVIS is 76 miles from Pecos on the Texas & Pacific railway. It is 200 miles by the Old Spanish Trail and the Bankhead Highway from El Paso. It is 420 miles from San Antonio, 440 miles as the crow flies from Dallas, and 90 miles from Mexico.

- Climate -

FORT DAVIS has 325 clear days a year, with 193 days absolutely cloudless. Golf can be played practically all year. The rainy season is in late summer and early autumn. It is the high altitude of one mile above sea-level that makes the summers cool, while it is the extreme southern latitude that keeps the winters from being really cold. There are only a few days in winter too cold to be comfortably out of doors—and sometimes none at all. This combination of high altitude and southern latitude gives the Davis Mountains undoubtedly the finest summer and winter climate in America. This is saying a lot, but facts certainly appear to prove it. It is said that a person can “rest faster” or recuperate more quickly here than in most places. There is assuredly no better place to rest and recuperate and find health and pleasure and satisfying days than in this delightful spot of the golden mean between latitude and altitude.

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Date_____192

Mr

[illegible]

Photos

- 11^② Giant Cactus nr. Phoenix
- 12^② ~~Desert~~ Small Cactus Bloom
- 13^③ Desert "
- 2 " "
- 3 Superstition Mt.
- 4 Cactus
- 5 Sidewinder nr. Gila Bend.
- 6 " "
- 7 " "
- 8 ~~Xanthoxia~~ ^{Coleonyx} ~~Xanthoxia~~ Gillespie Dam.
- 9 ~~Xanthoxia~~ " Gillespie Dam.
- 10 " " " "
- 11 " " " "
- 12 Lamprolittis nr. Navajump.
- 14^④ Chuckwalla ~~at~~ Gillespie Dam
- 2 " "
- 3 Me by Cactus nr. Phoenix
- 4 Desert nr. Phoenix
- 5 A desert flower blooms by the roadside (nr. Tucson)
- 6 Ranch house at Steam Pump.
- 7 Pusch Ridge from "
- 8 Steam Pump from foothills
- 9 Cactus (Prickly Pear) in bloom.
- 10 Pusch Ridge from foothills F8 x T60
- 11 Pusch Ridge from foothills F11 x ¹/₁₀₀

12⁴ Masticophis Steam pump

1⁵ 4

2 4 4

3 4 4

4 Sceloporus - Steam pump

5

6

7

8

9

10

11

12

A. C. Van Gaudt
Box 24
Decos, Texas.

Jesse C. Fisher
Fort Davis

The Romance of the Davis Mts. &
Big Bend Country
- Carlyle Graham Raht

The Rahtbrooks Co.
Ed Pass.

TEXAS	
MILE	
36	
54	
87	
193	
255	
355	
485	
624	
822	
1017	
1152	
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366	
536	
569	
161	
279	
317	
383	
Kerrville	439
San Antonio	509
LOWER ROAD	
Marfa	113
Alpine	143
Del Rio	358
San Antonio	514



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Douglas.....	355
Tucson.....	485
Phoenix.....	624
Yuma.....	822
San Diego.....	1017
Los Angeles.....	1152

EAST	
Van Horn.....	33
Kent.....	70
Pecos.....	124
Midland.....	215
Big Springs.....	255
Sweetwater.....	324
Abilene.....	366
Fort Worth.....	536
Dallas.....	569

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Ft Stockton.....	161
Ozona.....	279
Sonora.....	317
Junction.....	383
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Jesse C. Fisher
Fort Davis

The Romance of the Davis Mts. &
Big Bend Country
- Carlyle Graham Raht

The Rahtbrooks Co.
Ed Press.

Photo of nest, # 4⁵

Black eyes, chin white forehead wide upper
black collar, narrow lower one,

Photo 5⁵ Main range of Davis Mts. from near Kessy's
Ranch, looking N.W.

6⁵

7⁵ Same, looking N.

8⁵ View from same point looking East.

9⁵ View from ——— road at —

~~10~~ looking S.W. Main Range Davis Mts.

10⁵ Ditto looking W.

11. Bluffs W. side Limpia Canyon.

⁷
1. ~~Loane~~ Aldridge
2. Buck the Zaur (Castle)
3. U.B. — family.

Reos, Tex

" " " "

Left at Ft. Davis sign - Brantford Highway
 Charlie Spletzgarber - Phantom Lake Country.

Mr. H. E. Thompson

Rudolph Hale
Mohawk, Ariz.

Cabeza Prieta 2000

Mrs. Carroll.
 1045 E. 5th St.

Tucson

Ariz.



Cnemidophorus

